

Myographiæ Comparatæ
SPECIMEN:

OR, A
COMPARATIVE DESCRIPTION
OF ALL THE
MUSCLES

IN A
MAN, and in a QUADRUPED.

SHEWING THEIR
DISCOVERER, ORIGIN, PROGRESS, INSERTION,
USE, and DIFFERENCE.

TO WHICH IS ADDED,
An ACCOUNT of the MUSCLES
peculiar to a WOMAN. 

With an ETYMOLOGICAL TABLE, and several
useful INDEXES.

By JAMES DOUGLAS, M.D.

A NEW EDITION, with ADDITIONS.

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TH^O' Dr. Douglas's Comparative Myography has been published near half a century, yet still it is allowed to be one of the best books on the subject: witness the character given of it by an unexceptionable judge in a very late work; *Egregius labor, etsi juventutis opus --- inter compendia excellit* †.

THIS edition is carefully printed from that which the author published in the year 1707. But the correc-

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† Vid. HALLER. Comment. in Boerhaav. method. stud.

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tions and additions to the description of several muscles, which he afterwards printed in an appendix, are here inserted in their proper places; and for the benefit of young anatomists, the synonymous names of the muscles, together with a few notes, are added at the foot of the page.

FOR their use, we have likewise added from ALBINUS's *Historia Musculorum*, the order in which the muscles may be most conveniently dissected in one subject; and a list of them, according to their situation in the different regions of the body.

THE

T H E

P R E F A C E.

*T*HO' Myography has been often cultivated by industrious and good hands, yet it still affords a fertile field of reformation and improvement: of this, 'tis presumed, this small treatise will be sufficient evidence. Not that I lay claim to the vain presumption of having corrected all the mistakes, and supplied all the defects of those who have wrote upon this subject; that I leave to finishing hands.

I question not, but that I may be liable to correction in many things; or at least, that a better and more dexterous hand may rectify some of my descriptions.

The encouragement I had to publish these descriptions was, that I took them all from the life; I mean, from ocular inspection in dissection; without taking any of them upon the credit of another. For before I was de-

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terminated, as to the origin, progress, and insertion of the muscles, I raised them on both sides of above twelve subjects, both Fœtus's and adults; still committing to paper what I observed. I read often, and carefully perused all the authors that have wrote upon the muscles, from the immortal Galen down to this time; and after comparing all the descriptions one with another, I singled out such as I found conformable to the life, that being the standard I always go by; and according as that directed me, I have here rectified what I humbly conceived to be their mistakes, (but without mentioning them as their's) and supplied their defects as far as my observation went.

If any one has a mind to censure these descriptions as false, I only beg leave to acquaint him before hand, that I will always appeal to the ocular inspection of subjects, and if that gives it against me, I shall willingly retract and acknowledge my error. Whatever is offered against them, that is not accompanied with that, I shall pay but little regard to it. And to justify, in some measure, the conformity of these descriptions to exact observation and matter of fact, I still keep by me the half of one of my subjects, artfully prepared, which will afford me means of demonstration when a fresh subject is not at hand.

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And here I cannot but take notice, that in the many bodies I have viewed, I have not met with that frequency of Lusus Naturæ, that's so commonly talked of, especially by those who are loth to take the pains to make a strict and narrow inquiry in the dissection of these useful machines of motion. 'Tis true indeed, that nature does sometimes sport and vary in the composition of a muscle. Thus I have observed two Palmaris's in one hand; I have found three heads to the Biceps Cubiti, the uncommon head arising from the middle of the Os Humeri; I have seen one of the Interossei come from the upper part of the Carpus externally, &c. The other instances I could adduce, I refer to another occasion.

As for the comparative part of this treatise, or the interlacing the descriptions of the human muscles with those of the canine, that I presume needs no apology. The many useful discoveries drawn from the dissection of quadrupeds, the knowledge of the true structure of divers parts of the body, of the course of the blood and chyle, and of the use and proper action of the parts that's chiefly owing to this sort of dissection: these, I say, give a very warrantable plea for insisting upon it, tho' it may be censured by the vulgar.

As for what relates particularly to the muscles of a dog, or that quadruped which I have chose for my subject, I was induced to make the parallel between those of a man, and those of that animal, by two reasons.

1. One is the opportunity of shewing the contrivance and use of the muscles subservient to the peculiar motions of a dog, and such as its different way of living did necessarily require.

For where nature has acted uniformly, I am silent ; and that indeed is frequently met with, there being an exact similitude between the make and structure of many of the muscles of a man, and that of the corresponding muscles in a dog : but where any difference appears in respect of origin or insertion, 'tis there (and there only) that my comparative remarks take place.

2. The other reason is taken from the benefit and conveniency of the young students of anatomy, who may readily procure so common a subject ; and if they once acquire a dexterity of raising the muscles in it, may promise themselves an equal ability in raising those of the human body, after the dissection of one, or two at most.

Galen, the great head of the anatomical school, both practised himself, and recommended to his scholars, the frequent

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frequent dissection of monkeys and apes, as highly conducive to a more perfect knowledge of the admirable structure of the organs of the human body. I do not affirm, as some would have it, that he never dissected any thing else: for not to mention the many other reasons that might be offered to the contrary, the very descriptions he gives of several muscles suit only to the human body, and differ from all the quadrupeds; but because that ever renowned author has left us on record an account of the muscles in an ape, as well as in a man, I desire the reader to remark, That the descriptions of the muscles in his *Administraciones Anatomicæ*, and in his book, *De Dissectione Musculorum*, are chiefly taken from apes: but the account we have of them in his admirable book, *De Usu Partium*, are all taken from men. 'Tis pity the great *Vesalius* did not consider this.

The method I have here observed, is the same with that made use of at Surgeons-hall, in this city, the most noted and most illustrious school of anatomy now in Europe. As so weighty an authority was more than sufficient to determine my choice, so I can't but say, that it seems to be the best accommodated to the capacity of young students, and to be concerted in the most easy and distinct way.

I have purposely omitted the anatomical administration, or the manner of raising the muscles, upon the consideration, that 'twould have enlarged the bulk of this treatise, which is designed for a manual, fit to be carried about to publick dissections, and would have inflamed its price, without doing the young student any additional service; it being impossible to make any an operator in this way by oral precepts; manual operation, and the seeing one dissect, are the only effectual means for the compassing that end.

This comparative survey I design to continue through all the six parts, into which the human body is anatomically divided: the specimen now offered upon the muscles being what I had first drawn up, and withal a not improper fore-runner to the remaining parts.

It remains now to acquaint the reader, that all the muscles discovered or described by the immortal Galen, stand here without any name or mark affixed: those discovered since have the names of their respective discoverers joined to them: and those, which I humbly conceive, to have lain hitherto undiscovered, and have been brought to light by my assiduous application to this part of anatomy, without any assistance from other men or books, have three stars set
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after their names. Tho' I have joined the discoverer's name to the title or denomination of the muscle, yet I take the liberty to give my own descriptions, without mentioning in what particular point it is that I depart from them. Indeed, where I find the descriptions agreeable to the life, or to what observation I have been able to make, I have kept to them, and particularly in a great many given by the justly celebrated Mr. Cowper, whose very words I have often used, it being impossible to find others with more justice to the subject. And to the same most accurate and indefatigable improver of anatomy am I obliged for the uses of most of the muscles, both human and canine. From the labour and industry of this worthy person, who is equally famous for his wonderful dexterity in dissecting, and great skill in designing, we are now daily expecting a compleat account and history of the human muscles, enriched with abundance of improvements and new discoveries, and illustrated with original figures, being all done after the life, by his own hand.

I have subjoined to this treatise an Etymological Table of the muscles, the frequent reading, and attentive consideration of which, will render easy and familiar the harsh and not easily remembered names of many of these instruments of motion.

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I have industriously avoided the common fault of multiplying muscles without necessity. For example: I have described the Extensors of the cubit as one muscle; the Gastrocnæmius and Solæus I make but one muscle, arising by four heads; the oblique and transverse muscles of the Abdomen, in my opinion, make only three muscles, and not so many pairs. Indeed I make four muscles of the Triceps Femoris, because it has so many distinct beginnings and endings, as may be seen in the history of the muscles itself, to which I hasten.

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INTRODUCTION.

BEFORE I descend to the description of each muscle in particular, I think it requisite, for the benefit of young beginners, to give a short account of their structure and composition in general; and, by way of introduction to that, to premise what is meant by a fibre and a membrane; the whole being only an abridgment of what is found in authors, who treat of that subject at large.

A FIBRE is called in Greek *ῥίζα*, in Latin *Fibra*, which properly signifies those Villi or strings that hang about the roots of plants; but in an anatomical sense, it may be described a substance, in figure like a fine thread, of a tensible and irritable nature; by the various texture and combination of which, all the solid parts of the human body are framed.

OF

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OF these fibres there are divers kinds, for some are membranous, some carnous, some cartilaginous, some osseous, and some nervous; but these three last mentioned belong to another place, whither I refer them. The carnous fibres are vascular and hollow, being full of little cells; they are called *Fibræ motrices*, in as much as they are the chief organs of muscular motion. But of these, and the other membranous and tendinous fibres, more hereafter.

THE difference of these fibres may be likewise taken from their situation or course, with reference to which they are called straight, as running lengthways, or in right lines; circular, as running round some part, those for instance, of the Sphincter muscles; transverse, which intersect the straight ones at different angles; or oblique, which cut both the straight and transverse at unequal angles.

A membrane is a broad, thin, white, dilatable substance, interwoven with several sorts of fibres, like a web.

It's called in Greek *ὑμὴν*, *χίτων*, and *μενίγξις*; all which appellations, in the works of Hippocrates and Galen, denote one and the same thing, being by them indifferently used: but
later

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later writers have appropriated them to particular membranes; thus hymen is only given to that circular fold of the inner coat of the Vagina Uteri, placed near its outer orifice; Menynx is only attributed to the membranes that involve the brain; *Μεμβραν* still denotes a membrane or coat. Now in English, a membrane, taken in a large sense, comprehends all the Tegumenta or coverings that invest the solid, or contain the fluid parts; and these too have their particular names, according to the different parts they envelope. Thus the membrane that covers the Cranium, or skull, is called Pericranium; that which lines the inside of the Thorax, Pleura; that which invests the Abdomen, Peritonæum; the membrane which firmly adheres to the surface of all the bones, Periostium. Besides, that the membranes of some particular parts have also particular names, as we may see in their history. The membranes which form the coat of membranous bodies, such as the stomach, guts, &c. or the membranes of the vessels, containing the humours, are properly stiled coats and vessels.

ALL the membranous fibres have a sort of elasticity or spring, whereby, upon occasion, they can very easily extend, and contract themselves

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selves again, as may be observed in the Peritonæum, stomach and Uterus. The nervous filaments interlaced between them, and pouring in the animal spirits, make them extremely sensible whence the ancients were led into a mistake in affirming, that the membranes were the true organs of feeling.

EVERY membrane, tho' it appears never so thin, yet 'tis manifestly double, and between the duplicature the vessels run. And in the tiffure of their inner membrane there are placed abundance of small glands, which separate an humour for moistening them, and thereby hinder preternatural adhesions to the parts they touch, which always happens to any of the Viscera, affected with a Scirrhus, or hard tumor, which, in such a case, adheres firmly to all the neighbouring parts.

THE use of the membranes is to wrap up, and cover the parts, to strengthen 'em, to defend several of them from being hurt by the adjacent bones, to sustain the vessels that are ramified upon them, to keep the parts united; and 'tis worth our observation, that the admirable sympathy, or consent of the parts one with another,

The INTRODUCTION. xiii

other, depends, in a great measure, upon their fibrous connexions.

ALL that soft part of the body, the vulgar call flesh, is by anatomists distinguished into various parts or parcels, which they name so many muscles.

A MUSCLE is nothing but a Fasciculus, or bundle of fleshy and tendinous fibres, inclosed in a proper membrane, by means of which all the motions in an animal body are performed.

'Tis called *μῦς* by the Greeks, (which word properly signifies Mus, a mouse) and that perhaps from the likeness some of them have to that animal when stript of its skin; but others, with more reason, derive it from *μύειν*, contrahere, which is the proper action of a muscle.

THE whole body of the muscle is commonly distinguished into three parts, viz. the head or beginning, the body or belly, and the tail or ending; or into the middle, and the two extremities.

THE head is that part of the muscle which arises from the most stable part, unto which the contraction is made; for 'tis a constant rule, that every muscle is moved towards its beginning,

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ning, which thence may be called the centre of its motion.

THE origin of a muscle is, for the most part, tendineo-carnous; sometimes 'tis entirely tendinous, and sometimes it's observed to be only fleshy.

THE tail, or end of a muscle, is that part of it which is implanted or inserted into the member which is to be moved. This extremity is commonly called its tendon, or Tendo in Latin; yet Fallopius gives it often the name of Chorda; the Greeks call it ἀπὸνεύρωσις; but at present, by this word is only meant a thin, tendinous expansion, or membrane-like dilatation, sent off from the tendon of a muscle, as that of the Biceps Cubiti, Semitendinosus Tibiæ, &c.

THE substance of a tendon is the very same with that of the rest of the muscle; only its fibres being closely compacted together, for the conveniency perhaps of having a greater number of them inserted into a narrow place, they feel harder, and appear of a whiter colour; so that the fleshy fibres of a muscle are only its tendon divided and loose; and the tendon is nothing but these very fibres closely united, as Spigelius has most elegantly expressed it.

'Tis

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'Tis very probable, that every single muscle either begins or ends tendinous, (with this difference, that some few of them end in the Periostium, tho' the greatest part do penetrate that membrane, and are immediately inserted into the bone) the stronger and more conspicuous being extended beyond the fleshy part; the slender, and not so discernable, lie either hid under the flesh, or they are interlaced between its fibres.

'Tis necessary to know, that the head and tail of a muscle are terms convertible; for, according to the different situation of the body, those extremities do so alter, that the part which was before immoveable and fixed, becomes moveable.

THE belly of a muscle is the middle part of it, which consists of fleshy fibres, red, lax, and spongy, as may be distinctly observed in a piece of parboiled flesh. Now each fibre is made up of a vast number of little Fibrillæ, which are so many very slender hollow pipes, bound about by small transverse parallel threads, which divide these hollow fibrils into a great many Vesiculæ, or cells, that have no communication one with another, but only afford a place of en-

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tainment for the blood and spirits in the action of the muscle. This red colour of the fleshy fibres is only owing to the blood they receive; for upon injecting warm water plentifully into the arteries, the redness abates, and the fibres put on the same colour with these distractile tubes.

THE proper constituent parts of a muscle are those already described.

THE common are arteries, veins, nerves, lymphæducts, and fat. The arteries import the blood, and the veins convey it back again to the heart; the nerves bring animal spirits upon any impression communicated to them from the mind; the Lymphæducts, perhaps, carry back the remains of the nourishing juice, to be re-funded into the venal mass; the fat that's lodged upon and between the fibres, serves to lubricate and render them more fit for action.

A MUSCLE is either single or compound. In the first all the fleshy fibres run parallel to one another, or in the same direction; in the latter they run in several planes crossing one another, or in different courses.

ALL muscles, which serve for the same motion, are called Congeneres, because they assist

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one another in their action; and these, which are the instruments of opposite motions, are named Antagonistæ; as for example: every Flexor, or bending muscle, has a Tensor, or extending muscle; and it's a constant observation, that when one of these muscles is shortned, the other is extended; for the shortning of the muscle which acts, must needs produce an extension of its antagonist, or of that which acteth not.

THE use or action of the muscles is to perform all the different motions of the parts, and that is done by contracting themselves; for when the Fibrillæ Motrices are shortned, the moveable part must of necessity be drawn towards the fix'd; or the part from which the muscle does spring, and that into which it is inserted, must needs be brought nearer each other. But after what particular manner this is transacted, I shall not at present enquire, but refer my inquisitive reader, who delights in such speculations, to the authors who handle that subject, where their various conjectures may be seen at large; which, in truth, I am little fond of transcribing. The account of muscular motion, given by the great Bernouillius, late physician

xviii The INTRODUCTION.

at Basil, seems to be the most natural, and the most agreeable to the rules of mechanism, of any that has been hitherto advanced; and to repair the loss that we lie under, of not meeting readily with that incomparable treatise, the world will speedily see a correct edition of it, with large improvements from Dr. Mead, whose distinguishing capacity in the way of physic and learning, is accompanied with a candor and goodness that affects all who know him.

THE differences of the muscles, being mostly taken from the very same things whence their names are derived, to avoid all needless repetitions, I shall refer to the Etymological Table, and proceed.

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C O N T E N T S.

O <i>F the muscles of the</i>	<i>appearing in the fore</i>
<i>Abdomen, Chap. 1</i>	<i>and lateral parts of</i>
— <i>Testis,</i> 2	<i>the neck, Chap. 18</i>
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— <i>Skin of the Os Occi-</i>	<i>neck, that lie on its</i>
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— <i>Lips,</i> 8	<i>pear on the fore part of</i>
— <i>Cheeks,</i> 9	<i>the Thorax, 21</i>
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An Alphabetical Table of the Parts,
with the names and number of
Muscles belonging to each.

<i>Musculi Abdominis, V.</i>	<i>Transversalis.</i>
<i>O</i> Blivius ascendens.	<i>Musculi Ani, III.</i>
—descendens.	<i>Levator major, seu inter-</i>
<i>Pyramidalis.</i>	<i>mus.</i>
<i>Rectus.</i>	<i>Levator</i>

Levator minor, seu externus.

Sphincter.

Musculi Auriculæ,

Communes.

Proprii.

Musculi Auris internæ, IV.

Externus Auris.

Internus Auris.

Musculus Stapedis.

Obliquus.

Musculi Capitis, XII.

Caput Concutiens.

Complexus.

Obliquus inferior.

———— superior.

Rectus internus major.

———— minor.

———— lateralis.

———— major.

———— minor.

Splenius.

Sterno-mastoidæus.

Musculi Carpi, IV.

Extensor Carpi Radialis.

———— Ulnaris.

Flexor Carpi Radialis.

———— Ulnaris.

Musculi Coccygis, I.

Coccygæus.

Musculi Colli, VI.

Inter-spinales.

Inter-transversales.

Inter-vertebrales.

Longus.

Spinales.

Transversales.

Musculi Cubiti, V.

Angonæus.

Biceps externus.

———— internus.

Brachialis externus.

———— internus.

Musculi quatuor Digitorum Manûs, V.

Extensor Digitorum communis.

Flexor profundus.

Interossei.

Lumbricales.

Musculi quatuor Digitorum Pedis, VI.

Extensor brevis.

———— longus.

Flexor profundus.

———— sublimis.

Interossei.

Lumbricales.

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Lumbricales.

N. B. *Musculi Pollicis, Indicis, & minimi Digiti, vid. Ord. Alphabet.*

Musculi Dorsi, III.

Longissimus.

Semispinalis.

Transversales.

Musculi Femoris, XVI.

Abductores.

Gemini.

Glutæus major.

—— *medius.*

—— *minor.*

Iliacus externus.

—— *internus.*

Obturator externus.

—— *internus.*

Pectinalis.

Psoas magnus.

Quadratus.

Musculi Cutis Frontis & Occipitis, II.

Musculus Frontalis verus, seu Corrugator Coiteri.

Occipito-frontalis.

Musculi Genæ, II.

Buccinator.

Quadratus.

Musculi Humeri, IX.

Coraco-brachialis.

Deltoides.

Infra-spinatus.

Latissimus Dorsi.

Pectoralis.

Subscapularis.

Supra-spinatus.

Teres major.

—— *minor.*

Musculi Ossis Hyoidis, VI.

Coraco-hyoidæus.

Genio-hyoidæus.

Mylo-hyoidæus,

Sterno-hyoidæus.

Stylo-chondro-hyoidæus.

Stylo-hyoidæus.

Musculi Indicis, III.

Abductor Indicis.

Extensor secundi Internodii Indicis proprius.

Extensor tertii Internodii Indicis.

Musculi Labiorum, VIII.

Depressor Labii inferioris proprius.

Depressor Labii superioris proprius.

Depressor Labiorum communis.

Ele-

with

Elevator

proprius

Elevator

proprius

Elevator

munis

Sphincter

Zygoma

Musculi

Aryteno

——

Crico-a

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Crico-t

Hyo-t

Sterno-

Thyre

Musc

Cerato

Genio-g

Lingu

Stylo-g

Musculi

Inter-t

Psoas

Quadr

Spinal

Trans

with the names and number of muscles. xxiii

Elevator Labii inferioris proprius.

Elevator Labii superioris proprius.

Elevator Labiorum communis.

Sphincter Labiorum.

Zygomaticus.

Musculus Laryngis, VIII.

Arytenoidæus major.

minor.

Crico-arytenoidæus latera-

[lis.

posticus.

Crico-thyreoidæus.

Hyo-thyreoidæus.

Sterno-thyreoidæus.

Thyreoi-arytenoidæus.

Musculæ Linguae, IV.

Cerato-glossus.

Genio-glossus.

Lingualis,

Stylo-glossus.

Musculi Lumborum, V.

Inter-transversales.

Psoas parvus.

Quadratus.

Spinalis.

Transversalis, seu sacer.

Musculi Mallei,

Vid. Musculi Aur. intern.

Musculi Maxillæ inferioris, V.

Digastricus.

Masseter.

Pterigoidæus externus.

internus.

Temporalis.

Musculus meatus Auditorii, I.

Musculus meatus Auditorii novus.

Musculi minimi digiti Manûs, III.

Abductor minimi Digiti.

Extensor tertii Internodii minimi Digiti.

Flexor primi Internodii minimi Digiti.

Musculi minimi Digiti Pedis, II.

Abductor.

Flexor primi Internodii minimi Digiti.

Musculus Nasi, I.

Rinaeus vel Nasalis.

Musculi

xxiv *An Alphabetical Table of the parts,*

Musculi cutis Occipitis,
Vid. Musc. cutis Frontis.

Musculi Occuli, VI.

Abductor.

Adductor.

Depressor.

Elevator.

Obliquus inferior.

———— *superior.*

Musculi Palmæ manûs, II.

Palmaris brevis.

———— *longus.*

Musculi Palpebræ, II.

Aperiens Palpebram rectus.

Orbicularis Palpebrarum.

Musculi Penis, II.

Accelerator Urinæ.

Erector Penis.

Musculi Pharingis, XII.

Pharyngæus, whose various orders of fibres are named as follows:

Cephalo-pharyngæus.

Chondro-pharyngæus.

Crico-pharyngæus.

Glossopharyngæus.

Hyo-pharyngæus.

Mylo-pharyngæus.

Pterigo-pharyngæus.

Salpingo-pharyngæus.

Stylo-pharyngæus.

Syndesmo-pharyngæus.

Tyreo-pharyngæus.

Musculi Pollicis Manûs, IX.

Abductor.

Adductor ad Indicem.

———— *minimum*

digitum.

Extensor primi Internodii.

———— *secundi.*

———— *tertii.*

Flexor primi Internodii.

———— *secundi.*

———— *tertii.*

Musculi Pollicis Pedis, VI.

Abductor.

Adductor.

Extensor brevis.

———— *longus.*

Flexor brevis.

———— *longus.*

Musculi Radii, IV.

Pronator quadratus.

———— *teres.*

Supinator brevis.

———— *longus.*

Musculus

An alphabetical Table of the Parts, &c. xxv

Musculus Stapedis,
Vid. Musc. Aur. intern.

Musculi Scapulæ, III.
Levator Scapulæ.
Rhomboides.
Trapezius.

Musculi Tarsi, VI.
Extensor Tarsi Suralis,
vulgò Gastrocnemius &
Solæus.
Extensor Tarsi minor, vul-
gò Plantaris.
Peronæus primus.
———— secundus.
Tibialis anticus.
———— posticus.

Musculi Testis, II.
Cremafter.
Dartos.
Musculi Thoracis, XIII.
Cervicalis ascendens.
Costarum depressores.
———— levatores.
Diaphragma.
Intercostales.
Sacrolumbalis.
Scalenus.
Serratus inferior posticus.

Serratus major anticus.
———— minor anticus.
———— superior posticus.
Subclavius.
Triangularis.

Musculi Tibiæ, XI.
Biceps.
Cruræus.
Gracilis.
Membranofus.
Poplitæus.
Rectus.
Sartorius.
Semimembranofus.
Seminervofus.
Vastus externus.
———— internus.

Musculus Tubæ Eusta-
chianæ.
Musculus Tubæ novus,
vel Palato-salpingæus.
Musculi Veficæ, II.
Detrufor Urinæ.
Sphincter Veficæ.
Musculi Uvulæ, IV.
Gloffo-ftaphilinus.
Palato-ftaphilinus.
Salpingo-ftaphilinus.
Thyreof-ftaphilinus.

AN EXPLICATION of the
 ABBREVIATED NAMES of the
 AUTHORS quoted in this
 Treatise, with the Title of their
 Works to which these Quotations
 refer, and the Names of the
 MUSCLES each of them have
 discovered.

AQUAPENDENT.
Hieronimus Fabritius
ab Aquapendente, in
his Treatise de Auditu,
Patauii, 1600, de-
scribes the Musculus ex-
ternus Auris.

COITER. *Volcherus Coi-*
ter, in his externarum
& internarum princi-
paliū humanis Cor-
poris Partium, Tabulæ
atque anatomicæ Ex-
ercitationes Observatio-
nesque variæ, Norim-

bergæ, 1573, describes
the Corrugator.

COWP. *William Cowper,*
in his Myotomia refor-
mata, or a new Admi-
nistration of all the
Muscles of human Bo-
dies. London, 1694, de-
scribes the
Elevator Labii inferio-
ris proprius.
Depressor Labii supe-
rioris proprius,
Pterigo-pharyngæus,
Rectus internus minor,
Inter-

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*Inter spinales,
Spinalis Lumborum.
Extensor Pollicis Pedis
brevis,
Flexor primi Internodii
minimi Digiti.*

His Discovery of the
Costarum Depressores he
was so kind as to com-
municate unto me.

DIEMERBR. Isbrandus
de Diemberbroeck, in his
*Anatome Corporis hu-
mani. Ultrajecti, 1672.*
describes the
Cervicalis descendens.

DUVERN. Josephus Du
Verny, in his *Traclatus
de Organo Auditus con-
finens Structuram, Us-
um, & Morbos omnium
Auris Partium. No-
rimbergæ, 1684,* de-
scribes the
Musculus Auris exter-
[nus,
——— *Stapedis.*

EUSTACH. Bartholomæ-
us Eustachius, in his
*Treatise de Auditus Or-
ganis,* printed with his
*Opuscula anatomica,
Venetiis, 1563,* describes
the
*Musculus Auris inter-
nus.*

FALLOP. Gabriel Fallo-
pius, in his *Observatio-
nes anatomice, Venetiis,
1562,* describes the
*Pyramidalis Abdominis,
Aperiens Palpebram
rectus,
Mylo-hyoidæus,
Rectus lateralis,
Pterigoidæus externus,
Capitis par tertium,
Erector Clitoridis.*

GALEN. Claudius Gale-
nus describes all the
Muscles mentioned in
this Specimen, that have
neither a Name nor a
Mark affixed to them,
in his incomparable
Treatises,

Treatises, de Dissectione Musculorum ad Tyrones, de anatomicis Administrationibus, and de Usu Partium Corporis humani.

and in his *Tabulæ anatomicæ*, published by Daniel Bucretius, he describes the *Transversalis Pedis*.

J^A. SYLV. *Jacobus Sylvius, in his Opera medica, Coloniae Allobrogum, 1630, describes the*
Massa carnea, seu Musculus Carnis Portio.

RIOL. *Johannes Riolanus, in his Anthrographia, Parisius, 1649, describes the*
Levator Ani externus, Psoas parvus, Angonæus, Hypothenar, Thenar.

J. BAPT. CANAN. *Johannes Baptista Cananus, in his Musculorum humani Corporis picturata Dissectio, Ferrariæ, 1572, describes the*
Palmaris brevis.

SPIC. *Adrianus Spigelius, in his Fabrica Corporis humani ex Recensione Joh. Antonid. vander Linden, Amstelodami 1645, describes the*
Lingualis.

JUL. CASS. PLAC. *Julius Casserius Placentinus, in his de Vocis Auditusque Organis Historia anatomica. Ferrariæ 1600, describes the*
Externus Auris,

STEN. *Nicolaus Steno, in his de Musculis & Glandulis Observationum Specimen, Hafniæ, 1667, describes the*
Costarum levatores,
Musculi

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The

abbreviated Names of the Authors. xxix

Musculi ad Sacrolumbum accessorii.

VALSALV. *Antonius Maria Valsalva*, in his late Treatise de *Aure humana* Bononiæ 1704, describes the
Crico-pharyngæus,
Glossopharyngæus,
Hyo-pharyngæus,
Thyreopharyngæus,
Glossostaphilinus,
Salpingostaphilinus,
Musculus Tubæ novus.

VESAL. *Andreas Vesalius*, in his *humani Corporis Fabrica*, Basiliæ 1543, describes the *Paronum Pedis*.
 The following Muscles,

which have this Mark *** affixed to their Names, were discovered by the Author in his late Application to Myotomy.
Musculus meatus Auditorii,
Stylo-chondro-hyoidæus,
Chondro-pharyngæus,
Mylo-pharyngæus,
Salpingo-pharyngæus,
Syndesmo-pharyngæus,
Palato-staphilinus,
Thyreostaphilinus,
Inter-transversales Colli,

[*li*,
 — *vertebrales Colli*,
 — *transversales Lumborum*,
Coccygæus,
Duo Musculi Vaginæ Uteri.

MYOGRAPHIA:

1894

The following is a list of the names of the persons who have been elected to the office of Justice of the Peace for the year 1880, in the several townships of the County of York, Ontario, at the annual election held on the 24th day of September, 1879.

THE
LIBRARY
OF THE
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UNIVERSITY OF
CAMBRIDGE
100 Brookline Ave.
Cambridge, Mass.
U.S.A.

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MYOGRAPHIA:

OR, A

DESCRIPTION

OF THE

MUSCLES.

CHAP. I.

Of the muscles of the ABDOMEN.

OBLIQUUS DESCENDENS†

ARISES by several tendons, *Origin.*
that next the *Vertebræ Dorsæ*
being longer than any of the
rest, from the lower edge of the 5th,
6th, 7th, 8th, 9th, 10th and 11th rib,
a little before they become cartilagin-
ous; from the cartilaginous extremity
of the 12th rib; and tendineo-carnous

B

from

† *Obliquus externus.* Winslow and Albin.

The muscles of the Abdomen.

from all the outside of the same ribs near their cartilages. Its four uppermost acute beginnings are intermixed with the terminating Digituli of the Serratus Anticus major upon the body of the rib, and all the rest adhere to the Latissimus Dorsi, at its origin from the ribs.

Insertion. Is inserted, fleshy into the outer lip of more than one half of the Os Ilium, tendinous into the fore part of the same bone, and into the Peritonæum, and by two tendons into the Os Pubis; and besides into all the Linea alba, and lower part of the Os Pectoris, by a broad membranous tendon.

Use. Its use is to compress all the Viscera contained in the Abdomen, to pull the ribs down in expiration, and to turn the trunk of the body to one side.

N. B. BEFORE you can raise this muscle, you must free part of the Latissimus Dorsi from its adhesion to the Os Ilium, and then you will have a view of the Obliquus internus, the Triangularis Lumborum, the tendon of the

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The muscles of the Abdomen:

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the Transversalis Abdominis and the Sacro-lumbalis.

In a dog it arises from the ten inferior ribs, and membranous from the top of the spines of the four upper Vertebrae of the loins.

OBLIQUUS ASCENDENS †

ARISES tendinous from the posterior Origin. part of the spine of the Os Ilium, fleshy from the rest of the circular edge of that bone, tendinous again from the Peritonæum, and from the middle and fore part of the Os Pubis.

Is inserted fleshy into the lower edge of the last rib, and extremities of the two next above it, and tendinous into the cartilages of all the rest below the Sternum, and into the whole length of the Linea alba.

Its use is much the same with the former, the action of both being much strengthened by the decussation and different course of their carnos fibres.

B 2

In

† Obliquus internus. Winslow and Albin.

12. 13. Obliquus ascendens runs in fleshy, between the three last ribs, where their cartilaginous endings do not adhere to one another.

The muscles of the Abdomen.

In a dog it arises also from the spinal processes of the loins, by a thin tendinous membrane, like the former.

N. B. If you'll take the trouble to separate the two tendons of these oblique muscles, you will observe that that of the Internus is almost quite lost in the tendon of the Externus, before it reaches what they call the Linea alba: but before you can effect this, you must cut thro' a tendinous membrane that comes from the tendon of the Transversalis at the semilunary line, and joins in with that of the Ascendens.

PYRAMIDALIS FALLOP. †

Origin.

ARISES fleshy from the middle of the fore part of the Os Pubis.

Insertion.

Is inserted by a long tendon at the union of the Musculi transversales, between the Recti, a little below the navel.

Use.

ITS use is to promote the discharge of urine, by pulling the lower belly down-

† N. B. This muscle is often wanting in one side, or both.

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The muscles of the Abdomen.

5

downwards, and compressing the bladder, according to its first discoverer.

In a dog it is wanting.

RECTUS †

ARISES from the upper and anterior Origin. part of the Os Pubis by a thick and short tendon, and from the same bone near the origin of the Corpus Penis cavernosum by a long and small one. It soon becomes fleshy.

Is inserted tendineo-carnous into the Insertion. cartilaginous extremities of the seventh, sixth and fifth rib, near the Os Pectoris.

It is much broader at its insertion than in any other part, where it receives some fleshy fibres from the lowermost origination of the pectoral muscle.

Its use is to compress the fore part Use. of the lower belly, and according to the different positions of the body, to bring the breast nearer the Pubis, and so bend the trunk forwards, or *è contrà*, as in raising our bodies from a decumbent posture.

B 3

Lu

† Le Droit. Winslow.

The muscles of the Abdomen.

In a dog it is inserted fleshy into the lower part of the Sternum, and tendinous into all the rest of that bone.

N. B. THE tendons of the oblique muscles cannot be easily separated from the intersections of the Rectus, the lowermost of which lies parallel with the navel, but all the rest are above it.

TRANSVERSALIS

Origin.

ARISES by a broad and thin tendon from the transverse processes of the Vertebrae Lumborum, fleshy from the inner edge of the spine of the Ilium, and from the cartilaginous endings of all the ribs below the Sternum.

ITS fleshy fibres above the fore part of the Os Ilium run disgregated, and firmly adhere to the muscle above them.

Insertion.

IS inserted tendinous and fleshy into the Cartilago ensiformis, tendinous into all the Linea alba and Peritonæum, being firmly annexed to a little protuberance in the Os Pubis, on the outside of the Musculus Abdominis Rectus.

ITS

The muscles of the Abdomen.

7

ITS use is to compress the sides of Use. the Abdomen, and to assist in expiration.

N. B. 1. BY the Peritonæum, in my description of the Abdominal muscles, I understand what authors call Ligamentum Pubis; it being nothing but the firm union of the tendons of the oblique and transverse muscles with the Peritonæum, between the anterior part of the spine of the Ilium and the Os Pubis, whereby a protrusion, or falling down of the intestines, &c. in that place, which has nothing else to secure it, is effectually prevented.

2. THESE three last named muscles ought not to be reckoned as so many pairs, but only as so many single digastric muscles, with a broad middle tendon, and two fleshy bellies.

THIS was the prevailing opinion in Columbus's time. Vid. Reald. Columb. de re anat. lib. v. cap. xxii. de musculis.

3. THE Linea alba is nothing but part of the tendons of these oblique and transverse muscles appearing in the interstice

The muscles of the Abdomen:

terstice of the Recti, between the cartilago Ziphoides and the Os Pubis, and adhering firmly to one another in this place; which strict union occasions the whiteness to be more conspicuous here than in any other part. So that it was only in compliance with custom, that I said their tendons were inserted into this white line.

4. THEY are all three perforated a little above the Os Pectinis to one side, the two oblique in their tendinous, and the transverse in its fleshy part, for the passage of the Processus Peritonæi, receiving the Vas deferens and the spermatic vein and artery, inclosed in a large membrane distinct from the elongation of the Peritonæum. But besides these, I always observe a nerve and an artery pass that way from the Abdomen to the Scrotum, Inguen, and upper part of the Femur; from whence some venal twigs are remitted thro' the same holes into that cavity. The Cremaster muscle does only pierce the two oblique muscles. The surprising and most useful

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The muscles of the Testes.

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ful contrivance of the perforations or rings of these muscles shall be enquired into on another occasion.

CHAP. II.

Of the muscles of the TESTES.

EACH Testicle has one proper muscle, and one common to both, called

DARTOS, †

WHICH is a thin muscular membrane, including both the Testes.

ITS use is to contract and wrinkle the Scrotum by the action of its fleshy *fibres.*

THE muscle proper to each is the

CREMASTER,

WHICH arises from the lowest and fore Origin. part of the spine of the Ilium, and from the

† *Monro, Albinus, and Haller, have left out the Dartos from among the number of the muscles, as it is nothing but the cellular membranes of the Scrotum collapsed. Vid. Med. Essays, vol. v. art. xix.*

The muscles of the Penis.

the conjunction of the Os Pubis, with this bone by two distinct beginnings.

Insertion. Is inserted into the Tunica vaginalis, upon which it is spread in several distinct portions.

Use. Its use is to draw up and suspend the Testis.

C H A P. III.

Of the muscles of the PENIS.

THE Penis has two pair of muscles, the first is very distinct, the last is inseparately united in its origin and progress. The Transversalis Penis, mentioned by Aquapendens, is only part of the Musculus accelerator Urinæ, arising from the knob of the Ischium; for it is not inserted into the Cavum ovale, or bulb of the Urethra, but joins in with this muscle, of which it makes a second beginning.

SOME describe and delineate for the Transversalis Penis the Levator Ani externus Rioli.

ERECTOR

The muscles of the Penis.

II

ERECTOR PENIS†

ARISES tendinous and fleshy from Origin. between the tubercle of the Ischium, and the beginning of the Corpus cavernosum, and embracing the whole Crus,

Is inserted into the external thick Insertion. membrane of the two cavernous bodies of the Penis, near the union.

ITS use is to pull the Penis towards Use. the Os Pubis, whereby its great vein is compress'd, and the reflux blood deny'd its passage under those bones, by which means that member is erected. Vid. the appendix to Mr. Cowper's excellent treatise of Myotom. reformat.

ACCELERATOR URINÆ ||

ARISES fleshy from the Sphincter Origin. Ani, and superior part of the Urethra, and tendinous from the Ischium.

Is inserted into the Corpus caverno- Insertion. sum, from near their beginning to a little below their union.

ITS

† L'Ichio-caverneux. Winslow.

|| Le Bulbo-caverneux. Winsl.

The muscles of the skin of the

Use.

ITS use is to compress most adequately the bulbous or largest part of the Urethra, and drive the blood towards the glans for its distention.

A dog has yet another muscle besides these two, which may be called Transversalis; it's a true digastric muscle, having two fleshy bellies arising from a little round protuberance in the inferior part of the Os Pubis, on each side, uniting in a middle tendon, between the Os Pubis and the Penis. From the particular structure of this muscle, with a cartilaginous body placed transversely under the Ossa Pubis, and the great vein of the Penis, running between the muscle and it, I could easily account for the Erectio Penis in this animal, who copulates backwards. But that being foreign to the subject in hand, I will reserve it for a fitter occasion.

CHAP.

C H A P. IV.

Of the muscles of the skin of the
Os OCCIPITIS and Os FRONTIS.

THE skin of the head is moved by
one pair of muscles, and one
single digastric muscle.

MUSCULUS FRONTALIS VERUS, seu
CORRUGATOR Coiteri, †

ARISES fleshy from the process of Origin.
the Os Frontis, next the inner or great
angle of the orbit, above the joining
of the Os Nasi and superior process of
the Os maxillare with this bone, from
thence it runs obliquely outwards and
upwards, and

Is inserted into the fleshy part of the Insertion.
subsequent muscle, some of its Fibrillæ
passing through into the skin a little
higher than the middle region of the
eye-brows.

C

I T S

† Corrugator Supercilii. Albin.
Le Muscle sourcilier. Winsl.

The muscles of the skin of the

Use.

ITS use is to smooth the skin of the forehead, by pulling it down after the action of the Occipito frontalis; and when it acts more forcibly, it serves to wrinkle the skin of the front, between the Supercilia, as it happens when we frown or knit the brows.

This is wanting in a dog.

OCCIPITO-FRONTALIS †

Origin.

ARISES fleshy from the transverse line of the Occiput, opposite to part of the superior termination of the Mastoidæus, and part of the beginning of the Trapezius next it, and then tendinous from the rest of that line backwards, arising after the same manner on the other side; from thence it goes straight up, and soon becoming all tendinous, it covers the two parietal bones, and the Ossa squammosa, above the temporal muscles, its outer edge being fastened to the Os jugale on each side. This broad tendon near the coronal suture grows

† Epicranius. Albin.

grows fleshy, and descends with straight fibres as low as the Musculi Orbiculares.

Is inserted into the skin at the eye- Insertion.
brows, having sent down between them a narrow fleshy slip or elongation, which is continued over the Ossa Nasi as far as its cartilaginous part, where its fibres run off on each side, and terminate in the skin above the Musculus Nasi proprius.

WHEN this digastric muscle, which Use. covers all the upper part of the skull like a cap, acts, it pulls the skin of the head backwards, and at the same time it draws up and wrinkles that of the forehead, being antagonized by the Corrugator.

This muscle in a dog is only part of the Membrana carnosæ, that covers all the skull between the skin and the muscles.

COLUMBUS was of the opinion that the Musculus occipitalis, which he first described, and named Musculus supercilium trahens, joined the Frontalis by its broad tendon, and so drew the skin of the fore-head and hind-head backwards. Vid. cap. vii. de Musculis.

C H A P. V.

Of the muscles of the EYE-LIDS.

THE Palpebrae have two pair of muscles; one is proper to the upper lid, the other is common to both.

APERIENS PALPEBRAM RECTUS,
FALLOP. †

Origin. ARISES from the upper part of the hole of the sphenoidal bone, through which the optic nerve passes, between the Attollens and the Obliquus major.

Insertion. Is inserted by a broad tendon into the cartilaginous border of the upper eyelid.

Use. ITS use is to open the eye, by drawing the eye-lid up.

ORBICULARIS PALPEBRARUM ||

Origin. ARISES tendinous and fleshy from the edge of the Os maxillare, that makes the

- † Levator Palpebrae superioris. Albin.
Apertor Oculi. Spigel.
Pyramidalis. Molinett.
|| Sphincter. Molinett.

The muscles of the Eye-lids.

17

the lower part of the orbit, at the inner angle of the eye. •Its fibres are spread upon the under lid, and a great part of the Os Mali, and, surrounding the outer and little Canthus, they are continued over the upper part of the orbit, at the great angle, firmly adhering to part of the Os Frontis, and superior process of the Os maxillare.

ITS use is to shut the eye, by bring- Use.
ing down the upper lid, and pulling up the lower.

N. B. THE Ciliaris Riolani is only part of this muscle next the Cilia or Tarfi.

I HAVE often taken notice of a little fleshy slip, which parted from the Orbicularis Palpebrarum, and run down with the Zygomaticus.

In a dog it arises tendinous from the upper part of the Os jugale, at the external Canthus of the eye; it divides and surrounds each eye-lid with its fleshy Fibrillæ, which acting must necessarily pull up both eye-lids, bring them nearer one another, and shut them.

C H A P. VI.

Of the Muscles of the EYES.

EACH eye has six muscles.

OBLIQUUS SUPERIOR†

Origin. ARISES from the edge of the hole that transmits the optic nerve tendinous, between the Elevator and Adductor, from thence it runs straight along the Os planum to the upper part of the orbit, at the great Canthus where the Trochlea is affixed to the Os Frontis, through which it passes, and turning backwards,

Infertion. Is inferted tendinous into the Tunica Sclerotis behind the infertion of the Attollens.

Use. I T S use is to draw the globe of the eye forwards, and to turn its pupil downwards.

OBLIQUUS

|| Trochlearis. Casser. Obliquus major.
Molinett.

OBLIQUUS INFERIOR †

ARISES tendinous from the Os max- Origin.
illare, where it makes the edge of the
orbit near its juncture with the Os Mali,
and running obliquely outwards,

Is inserted into the Sclerotis, between Insertion.
the insertion of the Abductor and the
optic nerve.

ITS use is to draw the bulb of the Use.
eye forwards, and turn its pupil up-
wards. The uses I have assigned to
these two muscles were first advanced
by the ingenious and most accurate ana-
tomist, Mr. Cowper.

ELEVATOR ||

ARISES tendinous and fleshy from Origin.
the edge of the Foramen lacerum near
the Abductor.

Is inserted into the superior and fore- Insertion.
part of the Tunica Sclerotis by a thin
tendon.

ITS

† Obliquus minor. Molinett.

|| Attollens, Superbus, rectus superior.

The muscles of the Eyes.

ITS use is to lift up the globe of the eye.

DEPRESSOR †

Origin. ARISES tendinous and fleshy from the lower edge of the hole that gives passage to the optic nerve,

Insertion. Is inserted by a thin tendon into the Scleroris opposite to the insertion of the former.

Use. ITS use is to pull the globe of the eye down.

ADDUCTOR ‖

Origin. ARISES tendinous and fleshy from the edge of the hole in the sphænoidal bone, that transmits the optic nerve, between the Obliquus major and the Humilis.

Insertion. Is inserted by a thin tendon into the Tunica sclerotica, where it respects the great Canthus.

Use. ITS use is to bring the eye toward the nose.

ABDUCTOR

† Deprimens, Humilis, rectus inferior.

‖ Bibitorius, rectus interior.

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ABDUCTOR †

ARISES tendinous and fleshy from Origin.
the Foramen lacerum, without the orbit.

Is inserted by a thin tendon into the Infertion.
Sclerotis, where it respects the little Canthus.

ITS use is to move the eye outwards, Use.
from the great to the little angle.

Beside these six, a dog has two more, of which one belongs to the globe itself, the other to the Trochlea of the eye; the first is called Musculus septimus oculi suspensorius, it arises from the margin of the hole through which the optic nerve passeth into the eye, and is inserted, being divided into four or five fleshy portions, into the lower part of the Sclerotica, below the termination of the other muscles. Its use is to sustain and keep up the bulb of the eye, that it may not fall too low, and thereby put a stress on the nerve in this and other animals that go much with their heads down, or feed upon the ground.

The

† Indignatorius, Iracundus, rectus exterior.

The muscles of the Nose.

The other I call Musculus Trochleæ proprius, which is a very small muscle, arising fleshy near the origin of the Obliquus major, and soon turning into a slender tendon, is inserted into the Trochlea, to whose motions it is subservient. A description of this cartilaginous ring will be given at the end of my Comparative Osteology.

CHAP. VII.

Of the muscles of the Nose.

THE cartilaginous part of the nose has one pair of proper muscles, and three pair common to it with other parts.

RINÆUS, vel NASALIS, ***

Origin: ARISES fleshy from the extremity of the Os nasi, and adjacent part of the Os maxillare.

Insertion. Is inserted into all the cartilages of the Ala.

Use. ITS use is to open and dilate the nostril, by pulling that part outwards.

THE

The muscles of the Lips.

23

THE first of the common is an elongation of the Occipito frontalis already described, and serves to draw the skin of the nose upwards and backwards †.

THE second is part of the Elevator Labii superioris proprius, arising from the upper part of the Os maxillare, where it joins the Os Frontis at the inner Canthus ||.

THE third is common to it with the upper lip, being part of the Depressor Labii superioris proprius.

For the motion of a dog's flat nose, which is continued to the very extremity of the Maxilla superior, there are no proper muscles.

C H A P. VIII.

Of the muscles of the L I P S.

THE muscles of the lips are either common or proper. The common are inserted into the angles of the mouth, where the two lips join, being equally

† Le pyramidaux. Winsl.

|| Levator Labii superioris alæque Nasi. Alb.

La grande portion de l'incisif lateral.
Winsl.

The muscles of the Lips.

equally useful to both; they are three pair in number, and one odd one.

ZYGOMATICUS†

Origin. ARISES fleshy from the Os Mali, near its conjunction with the long process of the Os squamosum.

Insertion. Is inserted near the angle of the lips.

Use. ITS use is, with its partner, to draw both lips upwards.

ELEVATOR LABIORUM COMMUNIS‖

Origin. ARISES thin and fleshy from the hollow of the Os Maxillare, under the hole called Orbiter externus.

Insertion. Is inserted into the angle of the mouth and under lip.

Use. ITS use is to bring the two lips upwards.

DEPRESSOR LABIORUM COMMUNIS§

Origin. ARISES broad and fleshy from the lower edge of the Maxilla inferior, between

† Zygomaticus major. Albin. & Winsl.

‖ Levator anguli Oris. Albin. Le Canin. Winsl.

§ Depressor anguli Oris. Albin. Le Triangulaire. Winsl.

The muscles of the Lips.

25

tween that part of the Latissimus Colli, which climbs over the Maxilla to the angle of the lips, and the Depressor Labii inferioris proprius.

Is inserted into the angle of the lips. Insertion.

Its use is to pull down the corners of the mouth. Use.

SPHINCTER LABIORUM †.

THE fleshy fibres of this muscle surround the lips like a ring. Origin.

Its use being to constrict and draw both lips together. Use.

THE proper belong either the upper or lower lip, and are four pair in number, two muscles on each side to each lip.

ELEVATOR LABII INFERIORIS PROPRIUS, Cowper. ‖

ARISES from the lower jaw, near the gums of the Dentes incisivi. Origin.

D

Is

- † Orbicularis Oris. Albin.
- Constrictor Oris. Cowp.
- Les demi-orbiculaires, &c. Winsl.
- Levator Menti. Albin.
- L'Incisif inferieur. Winsl.

The muscles of the Lips.

Insertion. Is inserted into the skin of the chin,
Use. which it draws upwards, together with the lower lip.

ELEVATOR LABII SUPERIORIS PROPRIUS †

Origin. ARISES broad and fleshy from all that portion of the Os maxillare that makes the lower part of the orbit, immediately above the hole that transmits the nerves and arteries to the cheeks, and admits their returning veins, being joined on each side by a narrow fleshy slip ||, the shortest coming from the Os Mali, near the origin of the Zygomaticus; the longest proceeding from all the upper process of the first named bone, where it joins the Os Frontis at the great Canthus of the eye, and descends by the edge of the Ductus lachrymalis.

Is

† L'Incisif lateral. Winsl.

|| These fleshy slips are described by many authors as distinct muscles; the shortest being the Zygomaticus minor. Albin. & Winsl. and the longest is the Elevator Labii superioris aëque Nasi. Albin.

The muscles of the Lips.

27

Is inserted into the upper-lip, send- Insertion.
ing some Fibrillæ to be spread on the
Ala narium.

Its use is to draw that lip outwards, Use.
and when both act in concert, to pull
it upwards.

DEPRESSOR LABII INFERIORIS PRO- PRIUS †

ARISES fleshy from the inferior and Origin.
anterior part of the lower jaw, called
the chin.

Is inserted into the under lip near its Insertion.
Sphincter.

Its use is to pull the lower lip down, Use.
and a little outwards.

DEPRESSOR LABII SUPERIORIS PRO- PRIUS, Cowper. ‖

ARISES thin and fleshy from the Os Origin.
maxillare, immediately above the gums
of the Dentes incisivi. Its origin is con-
tinued as far back as the foremost Dens
D 2 molaris,

† Le Quarré. Winsl.

‖ Depressor alæ Nasi. Albin.

L'Incisif mirtoyen. Winsl.

The muscles of the Lips.

molaris, from whence it runs up under part of the Levator Labii superioris proprius, to its termination.

Insertion. Is inserted into the superior part of the upper lip and root of the Ala nasi.

Use. Its use is to draw downwards the parts in which it terminates.

The lips of a dog are moved by five pair of muscles, and a sphincter.

The Zygomaticus has a great many of its fibres spread upon the Buccinator, whereby it's able to draw the lips more forcibly upwards and sideways.

Elevator Labii superioris arises fleshy from the lower or little angle of the orbit, growing broader as it descends to its large insertion into the upper lip, which it pulls upwards when this animal snarls, &c.

Depressor Labii inferioris comes from about the middle of the Rostrum, or lower jaw.

If you cut the gums above the Dentes incisivi of both lips, you'll have a fair prospect of the Elevator Labii inferioris, and the Depressor Labii superioris, running, as in man.

C H A P. IX.

Of the muscles of the CHEEKS.

THE cheek, called Gena and Bucca, has no proper muscles of its own, being provided with two common to it, and some other parts; the first is common to it, with the lips; the second is common to it, the lower jaw, the lips, and most part of the skin of the face.

BUCCINATOR

ARISES by two distinct beginnings *Origin.* on each side, one tendinous and fleshy from the lower jaw, between its last Dens molaris, and the root of the forepart of its Processus corone; the other is fleshy from the upper jaw, between its last Dens molaris and the Processus pterigoides, from whose extremity also it arises tendinous, being continued between these two originations to the Pterigo-pharyngæus on one side, and the Mylo-pharyngæus on the other; from thence proceeding with straight fibres, and adhering to the membrane that co-

The muscles of the Cheeks.

vers the inside of the mouth, but without touching the gums of either jaw.

Insertion. Is inserted into the angle of the lips.

Use. ITS use is not only to move the cheeks with the lips, but also to contract the cavity of the mouth, by bringing them inwards, and so thrust the meat between the teeth for its better comminution.

QUADRATUS GENÆ, vel LATISSIMUS COLLI, †

Origin. ARISES broad, thin, and membranous, interlaced with abundance of car-nous fibres, which in their ascent do all unite, and make one continued fleshy substance, from the Sternum between the first and second rib, from the Acromion and between these two, from the proper or investing membranes of the Pectoral and Deltoidal muscles.

Insertion. Is inserted into that space of the external Labrum, or lip of the lower jaw, that's between its commissure and the back-

† Tetragonus, Platysma myoides,
Le Peaucier. Winsl.

The muscles of the Cheeks.

31

backmost origin of the Depressor labiorum communis, into the Buccinator, near the angle of the mouth, by a slip that runs up between the Depressor Labiorum communis and the Masseter, and membranous into the skin of the face. As these two muscles approach the chin, they are observed to decussate one another; that is, part of the muscle on the right side runs over the other, and is fixed to the lower jaw on the left side, and part of the muscle of the left side runs under the other, and is inserted into the lower jaw on the right side.

Its use is to draw the cheeks and skin Use. of the face downwards, and to assist the Digastric in opening the mouth.

In a dog it's only part of the Membrana carnosæ, expanded over the neck and the Musculus buccinator.

CHAP.

C H A P. X.

Of the muscles of the external EAR.

THE muscles of the auricle are common or proper; the common proceed either from the middle tendon of the Occipito frontalis, or from the Quadratus genæ, and move this part according to their respective insertions, whence they are divided into so many muscles, and named by authors from their use, as Attollens, seu Musculus Auriculæ anterior, deprimens, &c.

THE proper muscles of the auricle, or outer part of the ear, are such as arise from the Os petrosum and Parietale, and are inserted into the Concha under the common. Their number is uncertain.

The muscles subservient to the motion of a dog's external ear are so very numerous, as well as small, that I think it needless to insist on a particular account of each of them, a description of two of the most remarkable being sufficient.

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The muscles of the internal Ear,

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Retrabens ad collum arises from the union of the *Musculi cucullares*, above the second or third spinal process of the neck, and ends in the lateral and upper part of the *Concha*.

Erigen arises from the bony ridge of the *Os Occipitis*, and terminates by three fleshy portions into the outward ear. Its use being to erect or prick the ears.

C H A P. XI.

Of the muscles of the internal EAR, and auditory PASSAGE.

THE parts of the internal ear provided with muscles are the two little bones, called *Malleus* and *Stapes*; the hammer has three, and the stirrup one.

EXTERNUS AURIS, Aquapendent. vel
Jul. Casser. Placent. †

ARISES fleshy from a roughness in Origin. the upper side of the *Meatus auditorius* about its middle.

Is

† *Laxator Tympani*. Albin.

L'externe ou superieur du Marteau.
Winfl.

The muscles of the external Ear,

Insercion.

Is inserted by a long and slender tendon into the upper process of the Malleus, that adheres to the Membrana Tympani.

Use.

Its use is to draw the hammer with the Membrana Tympani outwards.

In a dog it comes from the Os petrosum, opposite to the long process of the Malleus.

INTERNUS AURIS, Eustach. †

Origin.

ARISES tendinous and fleshy from the beginning of the cartilaginous and extremity of the bony part of the Tuba Eustachiana, and running in a long channel, excavated in the Processus petrosus; it grows tendinous as it enters the cavity of the barrel, and passing over a little rising made by the extremity of this pipe near the Fenestra ovalis,

Insercion.

Is inserted into the posterior part of the handle of the Malleus, a little from its head.

Its

† Tensor Tympani. Albin.
L'Interne du Marteau. Winsl.

ITS use is to pull the hammer in- Ufe.
wards, nearer the Os petrosum.

N. B. The bone that some observe to be in the tendon of this muscle, is nothing else, in my opinion, but the extremity of the long channel in which it runs, broke off from the Os petrosum, and left adhering to the tendon.

OBLIQUUS AURIS, vel EXTERNUS,
Duvern. †

ARISES fleshy as the former, whence Origin.
marching backwards through a channel in the upper and external part of the Tuba Eustachii, without entering the cavity of the barrel.

Is inserted into the slender process of Infertion.
the Malleus, that lies upon the edge of that oblique sinuosity that's most remarkable in the bony circle of a Foetus.

ITS use is to draw the hammer for- Ufe.
ward, nearer that part of the temple-bone from which, in part, it takes its origin.

† Externus Mallei. Albin.

L'Anterieur du Marteau. Winsl.

The muscles of the external Ear,

origin. Of this process Cæcilius Folijs has given the best description; in length it exceeds that of the Manubrium Malleoli, and in shape it very much resembles a small fish-bone.

In a dog it may be called Musculus glandiformis, or ovalis, because it appears like a glandulous lump of an oval, or roundish figure, which lies in a particular cavity dug for it in the Os petrosum, near the Foramen ovale, from the bottom of which it springs, and is inserted by a very slender tendon.

STAPIDÆUS, vel MUSCULUS STAPEDIS, Duvern. †

Origin. ARISES fleshy from the bottom of a channel excavated in the Os petrosum, about the middle of the true Fallopian Aqueduct laterally.

Insertion. Is inserted tendinous into the side of the head of the Stapes.

Use. ITS use is to draw the Stapes upwards.

MUSCULUS

† Stapedius. Albin.

MUSCULUS MEATUS AUDITORI ***

ARISES from one of the discontinued Origin. cartilages of this passage, and

Is inserted into another, which it Insertion. serves to approximate and draw nearer one another. It is only observable in Use. \ a large and fleshy subject.

In a dog there are several little muscles, which come from one of the protuberating cartilages of the Concha, and end in another of them, which, by pulling them nearer, or drawing them farther, from one another, may dilate or straighten the Porus acousticus, or auditory tube, for the fiter reception of sounds, as occasion may require.

C H A P. XII.

Of the muscles of the Os HYOIDES.

THE bone of the tongue, called Os hyois, has five pair of muscles, and one odd one, which are all common to it with the tongue and the larynx.

E

MYLO-

MYLOHYOIDÆUS, Fallop.

- Origin.** ARISES fleshy and a little tendinous from all the inside of the lower jaw, between the backmost Dens molaris and the commissure of the two bones.
- Infertion.** Is inserted into the lower edge of the basis of the Os hyoides.
- Use.** Its use is to pull this bone upwards, forwards, and to either side, according as its fibres run.

GENIOHYOIDÆUS

- Origin.** ARISES tendinous from a rough protuberance at the inside of the chin, or from the forepart of the lower jaw internally.
- Infertion.** Is inserted into both the edges of the basis of the Os hyoides, remitting a fleshy slip to the beginning of each of its processes.
- Use.** Its use is to draw this bone upwards and forwards.

STYLO-

STYLOHYOIDÆUS†

ARISES by a round tendon from near Origin.
the middle of the Processus styloformis.

Is inserted tendinous into the basis of Insertion.
the Os hyois near its Cornu, to which
also it often adheres fleshy.

N. B. The carnos belly of this
muscle is sometimes divided on both
sides for the passage of the middle ten-
don of the digastric, sometimes but
on one side only, and sometimes it is
unperforated on both sides.

ITS use is to pull the bone of the Use.
tongue to one side, and a little upwards
when both act in concert.

STYLO CHONDROHYOIDÆUS, *** vel

STYLO HYOIDÆUS ALTER ||,

ARISES fleshy and tendinous from the Origin.
Styloide Process, near the origin of the
stylo pharyngæus, and running under
the Cerato Glossus,

E 2

Is

† Stylocerato Hyoideus. Spigel.

|| Stylo-hyoides novus. Santorin.

N. B. This little muscle is often wanting.

The muscles of the Os Hyoides

Infertion. Is inferted into the cartilaginous appendix of the Os hyoides.

Ufe. Its ufe is to affist the former in pulling this bone upwards and laterally.

CORACOHYOIDÆUS †

Origin. ARISES broad, thin and fleshy from the superior Costa scapulæ, near its Sinus or Cavitas semilunaris, as also from some part of the ligament that runs from the edge of this cavity to the root of the Proceffus coracoides, thence ascending obliquely it becomes tendinous between the Mastoidæus and Vena jugularis interna, but soon growing fleshy again,

Infertion. Is inferted by a thin tendon into the basis of the Os hyois, between the termination of the Sternohyoides and its Cornu.

Ufe. Its ufe is to pull this bone obliquely downwards.

N. B.

† Costo-hyoides. Santorin,
L'Omoplat-hyoidien, ou l'omo-hyoidien. Winsl.

The muscles of the Os Hyoides.

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N. B. R. Columbus first took notice of the true origin of the Coracohyoidæus.

STERNOHYOIDÆUS †

ARISES fleshy and thin from the cartilaginous part of the first rib, the upper and inner part of the Os Pectoris, and from the adjoining inferior part of the Clavicula.

Is inserted between the middle of the basis of the Os hyoides and the Coracohyoides.

Its use is to pull that bone directly downwards.

A dog has neither the Stylo-chondro nor the Coraco-hyoidæus, but instead of these it has two more, which are not to be found in the human body, viz.

Chondro cerato hyoidæus, which is a small fleshy muscle that comes from all the cartilaginous appendix of the bone Hyois, and ends into all the shortest Procefs, or Cornu, that joins the Cartilago Thyreoidæa of the Larynx.

E 3

Its

† Le Sterno-hyoidien, ou Sterno-cleido-hyoidien. Winsl.

The muscles of the Os Hyoides.

Its use being to draw them nearer one another. And

Inio cerato hyoidæus; this is a very short fleshy muscle, which arises from the forepart of that process of the Occiput, which gives origin to the digastrick of the lower jaw, and is inserted near the extremity of the longest process of the Os hyoides, which it pulls backwards.

The Stylohyoidæus arises from the horn of the Os hyoides, near its adhesion to the Occiput, and running across the digastrick muscle, is inserted into the basis of that bone. It's a long and slender fleshy muscle.

The Sternohyoidæus arises fleshy in common with the Sternothyreoidæus, from the inside of the cartilaginous part of the first rib next the Sternum; it parts from the aforesaid muscle about two inches or more above their united origin.

C H A P. XIII.

Of the muscles of the TONGUE.

THE tongue has four pair of muscles, which may be called proper, because they are all inserted into its own substance.

GENIOGLOSSUS

ARISES tendinous from a rough protuberance in the inside of the fore part of the lower jaw about the middle of the chin. Its fibres run in three different directions; the middlemost terminates about the middle of the tongue, the anterior is carried forwards towards its tip, and the posterior or last order runs obliquely backwards towards the root of the tongue, and by a narrow slip ascends on each side to the horns of the Os hyoides.

Its use is to move the tongue according to the different direction of its fibres, i. e. to pull it forwards, and thrust it out of the mouth, to draw it into the mouth,

The muscles of the Tongue.

mouth, or to bring the tip of the tongue downwards and backwards.

CERATOGLOSSUS †

Origin: ARISES fleshy from three different places; its first origin is broad and car-nous from the Cornu of the bone Hyois; this is properly the Cerato-glossus; its second head comes from part of the ba-sis of this bone, and is named Basio-glossus; the third beginning is derived from the cartilaginous appendage of the Hyoides, which some call Chondro-glossus; these three unite, and their fibres running in the same direction,

Infertion. Are inserted broad and thin near the root of the tongue laterally.

Use. Its use is to draw the tongue obliquely to one side; but if both act at once, the tongue is pulled directly back-wards into the mouth.

N. B. In some subjects I have ob-served, that a great part of the CERA-TOGLOSSUS did arise from the basis of the bone, and in some others I have found

† Le Hyc-glosse. Winsl.

The muscles of the Tongue.

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found few or none of its fibres to spring from thence.

STYLOGLOSSUS

ARISES tendinous and fleshy from the Origin. Processus styloformis of the temple-bone, and often also from a fleshy ligament that's extended from that process to the angle of the lower jaw.

Is inserted into the side of the tongue Insertion. from its root to near its middle.

Its use is to draw the tongue laterally, but when both act, to pull it upwards and inwards. Use.

In a dog it arises from the extremity of the long process of the Os hyoides.

LINGUALIS

ARISES pretty large and fleshy from Origin. the basis of the tongue laterally, and runs straight forwards between the Cerato and Genio-glossus to its tip, where it's hard to determine whether it ends Insertion. there, or if it returns circularly after the same manner on the other side to the root of the tongue again.

ITS

The muscles of the Larynx.

Use.

Its use is to contract or narrow the substance of the tongue, and at the same time to bring it backwards and downwards.

N. B. Lingualis was first described by R. Columbus, being thus named only by Spigelius.

C H A P. XIV.

Of the muscles of the LARYNX.

THE upper part or head of the *Aspera arteria*, called Larynx, is made up of five cartilages, three of which are provided with muscles.

THE Cartilago Thyreoidæa, or Scutiformis, has three muscles on each side.

HYOTHYREOIDÆUS †

Origin.

ARISES fleshy from part of the basis, and almost all the Cornu of the Os hyoides.

Insertion.

Is inserted into the outside of a rough line that runs between the angles of the Cartilago scutiformis.

Its

† Thyro-hyoidien, ou Hyo-thyroidien.

Winfl.

The muscles of the Larynx.

47

Its use is to pull the Larynx upwards. Use.

STERNOTHYREOIDÆUS

ARISES fleshy from all the edge of the Origin. first bone of the Sternum internally between the cartilages of the first and second rib, from both which it receives two small beginnings.

Is inserted tendinous and fleshy into Insertion. the surface of the above mentioned rough line of the buckler-like cartilage. It very often remits a slip to the Cornu or Process of the Os hyois.

Its use is to draw the Larynx down- Use. wards.

In a dog the beginning of this muscle is confounded with that of the Sterno-hyoidæus.

CRICOTHYREOIDÆUS

ARISES fleshy from the forepart the Origin. Cartilago Cricoides.

Is inserted into the lunated and lower Insertion. part of the Thyreoides.

Its use is to dilate the cavity of the Use. Larynx, by drawing the Scutiformis outwards and to one side.

Each

The muscles of the Larynx.

EACH of the Arytænoidal cartilages has three proper muscles, and two common to them both: the common are the two following.

ARYTÆNOIDÆUS MAJOR †

Origin. ARISES fleshy from one of these cartilages near its juncture or articulation with the Cricoides, and running transversely of an equal breadth with streight fibres,

Infertion. Is inserted into all the same side of the other cartilage.

Use. ITS use is to shut the Rimula or chink called Glottis, by bringing these two cartilages nearer one another.

ARYTÆNOIDÆUS MINOR *** ||

Origin. Is a very small muscle which runs upon the surface of the former, arising from that part of one of the Cartilaginee Arytenoidææ next the Cricoides on one side,

† Arytænoideus transversus. Alb. & Winsl.

|| Arytænoideus obliquus. Alb.

L'Arytenoïdien croisé. Winsl.

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The muscles of the Larynx.

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side, and terminating into that part of Insertion.
the other arytenoidal cartilage that is
farthest from the Cricoides on the other
side.

Its use is to assist the former in its Use.
action, which is much strengthened by
this manifest decussation of fibres.

CRICOARYTENOIDÆUS POSTICUS

ARISES fleshy from the back part of Origin:
the ring-like cartilage, and

Is inserted into the Guttalis near the Insertion:
following.

Its use is to open the Rimula. Use.

CRICOARYTENOIDÆUS LATERALIS

ARISES fleshy from the Cartilago cri- Origin:
coides laterally.

Is inserted into the Arytenoides or Insertion:
Guttalis, under the implantation of the
superior order of fibres belonging to the
following muscle.

Its use is to open the Glottis. Use:

THYREOARYTENOIDÆUS

ARISES from the whole length of the Origin:
internal concave, and middle part of

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the

Insertion. the Cartilago scutiformis, from whence its fibres proceed in three different orders; the uppermost terminates into the Guttalis, near the insertion of the Cricoarytenoides lateralis; the middlemost, which may be called Thyroglottis, runs up under this, and is spread upon the membrane that comes between the Glottis and arytenoidal cartilage; the lowermost is inserted into the anterior angle of this cartilage. The

Use. The superior and inferior order of fibres do draw the cartilage, to which they are fixed, nearer the Scutiformis, and thereby do most adequately shut the Rimula or Glottis; the middlemost direction of fibres may help to pull the Epiglottis down when both act, or laterally when one only is contracted.

The fifth cartilage of the Larynx, called Epiglottis, is furnished with a pair of muscles in a dog, which I call Hyoglottus; it arises fleshy from the cartilaginous appendix of the Os hyoides internally, and partly also from its basis hard by the origin of the Basoglossus; from thence each marches obliquely nearer

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The muscles of the Pharynx.

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nearer one another to their united tendinous insertion, in the middle of the upper part of the Epiglottis, not far from its tip, which it serves to raise and lift up again after it has been depressed in swallowing.

C H A P. XV.

Of the muscles of the PHARYNX.

TH O' I take the upper part of the Oesophagus, or Pharynx, to be only made up of a pair of muscles, one on each side, which I call Pharyngæus, whose fleshy fibres running in different directions from distinct and various originals, do meet and unite upon the back of the glandulous membrane of the Fauces; yet, in imitation of the accurate Valsalva, I shall describe each different order by it self, and name it from the place whence it arises.

I. CEPHALO-PHARYNGÆUS. This order of fibres arises from a little rising, or Tubercle, in that process of the Os

F 2

Occipitis

The muscles of the Pharynx.

Occipitis that joins the Sphænoidal bone, not far from its great hole.

2. CHONDRO-PHARYNGÆUS, ***

This order arises from the cartilaginous appendage of the Os hyoides.

3. CRICO-PHARYNGÆUS, Vals. Arises from the Cartilago cricoides, or Annularis.

4. GLOSSO-PHARYNGÆUS, Valsal. Arises from the root or upper part of the tongue laterally.

3. HYO-PHARYNGÆUS, Vals. Arises from the Cornu or process of the Os hyoides, wherefore I name it Hyo-cerato-pharyngæus.

6. MYLO-PHARYNGÆUS *** † Arises from the lower jaw, near the last Dens molaris.

7. PTERIGO-PHARYNGÆUS, Cowp. Arises tendinous and fleshy from the Pterigoidal process of the Os sphænoidale.

8. SALPINGO-PHARYNGÆUS, *** Arises from the extremity of the bony part

† Le Myloglosse. Winsl.

The muscles of the Pharynx.

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part of the Tuba Eustachii, commonly called the Aqueduct.

9. SYNDESMO-PHARYNGÆUS ***

Arises from the ligament that ties the Cornu of the Os hyoides to the process of the Cartilago scutiformis.

10. STYLO-PHARYNGÆUS Arises fleshy from near the root of the Processus styloformis.

11. THYREO-PHARYNGÆUS, Vals.

This last order of fibres arises from that rough line that's extended between the two angles of the Thyreoidal cartilage, as also from some of its upper side †.

Now,

† Young anatomists are greatly perplexed by the different accounts which authors have given of the muscles of the Pharynx; some reckoning them but two or three in number, whilst others have multiplied them to 13 or 14 on each side. Albinus's division of them seems to be the most natural of any. According to him, there are six pair of muscles belonging to the Pharynx, viz. Stylo-pharyngæus, three Constrictors, Salpingo-pharyngæus and Palato-pharyngæus.

54
Origin.

The muscles of the Pharynx.

Now, from these various beginnings does this muscle of the Pharynx arise, and

The **STYLO-PHARYNGÆUS**, Alb. Is the same muscle which Douglas has described under that name.

The **CONSTRICtor INFERIOR**, Alb. Is composed by the Crico-pharyngæus and the Thyro-pharyngæus of Douglas.

The **CONSTRICtor MEDIUS**, Alb. Comprehends the Hyo-pharyngæus, the Chondro-pharyngæus, and the Cephalo-pharyngæus of Douglas.

The **CONSTRICtor SUPERIOR**, Alb. Is chiefly made up of these paquets of fibres which Douglas has described by the names of Glosso-pharyngæus, Mylo-pharyngæus, and Pterigo-pharyngæus.

The **PALATO-PHARYNGÆUS**, Alb. Is the Thyreo-staphilinus of Douglas, described in the following chapter.

The **SALPINGO-PHARYNGÆUS**, Alb. Is a very slender packet of fibres, which arises from the anterior extremity of the cartilaginous part of the Eustachian Tube, and running down upon the back part of the Pharynx, joins in with the inferior extremity of the Palato-pharyngæus. Vide Eustach. tab. 42. fig. 4. and 6. where all these six muscles are delineated.

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The muscles of the Pharynx.

55

and is inserted into the membrane of the Insertion.
Fauces, where it meets with its fellow
of the other side. As for its use, the Use.
fibres that spring from the Larynx, Os
hyoides, and tongue, serve to contract
the cavity of the gullet, and forward
the aliment, &c. into the stomach.
Those, which arise from the other parts
above described, do all serve to enlarge
and dilate the cavity of the gullet, in as
much as they pull it out on all sides for
the reception of the food, &c.

*In a dog the Stylo-pharyngæus arises from
near the extremity of the long Cornu of the Os
hyoides, and the Salpingo-pharyngæus runs
for some space at a distance from the Mem-
brana Faucium, different from what it does in
man.*

CHAP.

C H A P. XVI.

Of the muscles of the Uvula.

THE Gargareon, or Uvula, has four pair of muscles.

GLOSSO-STAPHILINUS, Vals. †

Origin. ARISES fleshy from the side of the tongue.

Infertion. Is inserted near the middle of the Uvula laterally.

Use. Its use is to pull it to one side, and when both act to bring it nearer the tongue.

PALATO-STAPHILINUS ***. ¶

Origin. ARISES fleshy from the middle of the Os Palati, near its juncture with its fellow of the other side, and running straight forward,

Infertion. Is inserted near the extremity of this duplicated glandulous membrane, called the Gargareon.

Its

† Glosso-palatinus. Santorin.

Constrictor Isthmi Faucium. Albin.

¶ Azygus Uvulæ. Les Staphylins, ou Epistaphylins. Winsl.

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ITS use is to pull it forwards and Use. downwards, which office was always said to be performed by the Pterigostaphilinus internus, till Valsalva appeared, who corrected that mistake, and ascribed the muscle so called to the tube of the ear, as shall be shewn hereafter.

N. B. The Palato-staphilinus seems to have been partly known by Mr. Dionis, a French surgeon: for in his Anatomy of human bodies improved, he affirms the Uvula to be formed by the union of two little round muscles, that spring from the Septum Nasi. If I had known so much when I first described these muscles, his name, and not my mark, had been affixed unto them; and I had only given their true description, which he has erred in. This same author does likewise very accurately describe the two arches that reach from the sides of the Uvula to the tongue, which are afterwards reckoned two new muscles by Valsalva, under the name of Glossostaphilini.

SALPINGO-

SALPINGO-STAPHILINUS, Vals. PTERIGO-STAPHILINUS EXTERUS VULGO †

Origin. ARISES fleshy from the bony part of the tube of the ear, and

Insertion. Is inserted into the basis of the Uvula, where it joins fibres with its partner muscle on the other side.

Use. Its use is to draw the Uvula upwards and backwards.

The circular fibres of the Thyreo-staphilini cover the last described muscles.

N. B. SALPINGO-STAPHILINUS is a pretty thick and round muscle, its true origination being pointed at by Veslingius in his Syntagm. Anatom. cap. xi. pag. mihi 175. long before Valsalva christened it by this name.

THYREO-STAPHILINUS *** ||

Origin. ARISES fleshy from the edge of the upper part of the Cartilago-Thyreoides, between

† Levator Palati mollis. Albin.

Le Petro-salpingo-staphylin, ou Salpingo-staphylin interne. Winsl.

|| Palato-pharyngæus. Albin.

Le Thyro-pharyngo-staphylin. Winsl.

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between the Thyreo-pharingæus and the Membrana faucium, from thence it ascends straight upwards, being much dilated as it approaches the Uvula, upon the upper side of which it is spread very broad. And here it is not easy to determine, even when the membrane that covers it is removed, whether it unites with its partner, or if its fibres surround the Gargareon, and then descend to the upper part of the Cartilago scutiformis on the other side.

In deglutition, when this pair of muscles act, the Foramina Narium are in a great measure shut to hinder the passing of any thing through the nose that is taken in at the mouth.

In a dog between the tonsils are placed two spongy bodies, like teats, at a little distance from one another, formed of a production or folding of the glandulous membrane that lines the mouth, and in all respects seem analogous to that part in man; each of them is provided with two muscles; one to pull them down, which arises and is inserted like the Glossopharynx in man; the other draws them upwards

60 The muscles of the Tuba Eustachiana.

wards from the passage into the nose. It arises, proceeds, and is inserted, like my Palato-staphilinus, being a very long and slender muscle.

C H A P. XVII.

Of the muscles of the TUBA EUSTACHIANA.

THE canal of communication between the mouth and barrel of the ear, Aquæductus Fallopii vulgo, is by that accurate anatomist Antonius Valsalva, called Tuba, from its figure, and Eustachiana, from its first discoverer Bartholomæus Eustachius; for to dilate and keep it open, he describes a new muscle, for he first found out that the muscle called Pterigo-staphilinus internus and Sphæno-pterigo-palatinus does not belong to the Uvula, but unto this passage.

MUSCULUS

The muscles of the Tuba Eustachiana. 61

MUSCULUS TUBÆ NOVUS Valsal. vel
PALATO-SALPINGÆUS *** †

IN my late enquiries into the muscular structure of the Fauces, I have always observed that this muscle

ARISES broad and tendinous from Origin. the edge of all the lunated part of the Os Palati, several of its fibres being spread upon the membrane that covers the Foramen Narium, then growing into a small thin tendon, it's reflected about the hook-like process of the inner Ala of the Processus pterigoides, but soon turning into a narrow and thin fleshy belly, it runs close along the inside of the Musculus pterigoidæus internus, and

Is inserted carnos into all the mem- Insertion.
branous, fleshy and cartilaginous part of the tube.

ITS use is to dilate and keep open Use.
this channel, as Valsalva first has most ingeniously took notice.

G

Long

† Circumflexus Palati. Albin.

Le Sphæno-salpingo-staphylin. Winsl.

62 The muscles of the Tuba Eustachiana.

Long before the excellent treatise of this author fell into my hands, I demonstrated a muscle something analogous to this in a dog, which I name with respect to its origin, progress and termination,

TYMPANO-PETROSO-SALPINGO- PTERIGO-PALATINUS,

Arises from the Os petrosum within the cavity of the Tympanum, or barrel opposite to the Musculus ovalis, and going out by the side of the Ductus a Palato ad Aurem, to the membranous and fleshy part of which it firmly adheres, becomes carnous, and continues so, till it arrives at the sharp wing-like process of the Os sphœnoidale, where it grows tendinous; and, being reflected over the same, its fibres are again dilated and expanded over the membrane that covers the slits, or Foramina Narium, where it seems to join with its fellow on the other side.

The use of this muscle is to compress the palatine glands that lie above it in great clusters and heaps, by pulling up the membrane, which is a very useful contrivance to forward the secretion of their salivary juices,
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The muscles of the Tuba Eustachiana. 63

that are of so great use in time of mastication for softening the hard bones, and such like substances as this animal usually feeds upon, and farther for promoting their dissolution in the stomach; besides, it may also be subservient to the dilatation of the Eustachian Tube.

N. B. In my humble opinion, with all submission to the better judgment of others, the Musculus Tubæ novus may well be divided into two distinct muscles, as upon occasion I think I can very easily demonstrate. The first I bring broad and tendinous from the Os Palati, and fix its termination into the tube of the ear, which it serves to dilate. The other, which is much smaller, seems to derive its origin from the Apex of the bony part of the foresaid tube: in its ascent it closely adheres to the first, but at the hook-like process of the bone its small tendon departs from it, and growing broad and thin, is soon spread upon the Membrana Faucium, above the Foramina Narium, at the sides of the Uvula. Its use being, when it acts with

The muscles of the Head.

its partner, to antagonize the Thyro-staphilinus.

C H A P. XVIII.

Of the muscles of the HEAD, appearing or situate in the fore and lateral parts of the NECK.

THE head has twelve muscles on each side; five offer themselves to be described in this position of the body; the rest appearing when the subject lies prone.

MASTOIDÆUS †

Origin. ARISES tendinous, and sometimes a little fleshy, from the upper part of the Os Pectoris, and carnosus from near one half of the Clavicula next it.

Insertion. Is inserted by a thick and strong tendon into the point or forepart of the Processus

† Le Mastoïdien antérieur ou Sterno-cleido-mastoïdien. Winsl.

Sternomastoidæus una cum cleido mastoïdæo. Albin.

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The muscles of the Head.

65

Processus mastoidæus, and by a broad and thin tendinous expansion running obliquely upwards and backwards into the rest of that process, and the adjacent part of the Os petrosum externally, hard by the Lambdoidal Suture. When Use. this acts, the head is turned to the opposite side, and when both act together, they bend the head forwards.

In a dog it arises by an acute tendineo-carnous beginning from the upper part of the Os Pectoris, and growing into a thick and fleshy belly continues united with its fellow half way up the Trachæa; then receding from one another, each marches obliquely to its double termination, one by a round tendon into the edge of a cavity made behind the bony part of the Meatus Auditorius, the other by a broad thin and membranous tendon into the lateral part of the Os Occipitis.

RECTUS INTERNUS MAJOR †

ARISES from the anterior points of Origin. the transverse processes of the third, fourth, fifth and sixth Vertebra of the

G 3

neck,

† Le Droit antérieur long. Winsl.

The muscles of the Head.

neck, by so many double tendons, which soon become fleshy.

Insertion. Is inserted into the anterior process of the Os Occipitis, near its conjunction with the Os sphænoides.

Use. ITS use is to bend the head forwards.

In a dog it arises tendineo-carnous from the fore and internal part of all the transverse processes of the neck, except that of the first, on the inside of which it is reflected in its ascent to the head, where it terminates in a little dimple made in the occipital bone.

RECTUS INTERNUS MINOR, Cowp. †

Origin: ARISES fleshy from the fore part of the body of the first Vertebra Colli.

Insertion. Is inserted near the root of the Condiloide process of the Occiput under the former.

Use. ITS use is to nod the head forwards.

RECTUS LATERALIS Fallop. ‖

Origin. ARISES fleshy from the transverse process of the first Vertebra Colli.

Is

† Le Droit antérieur court. Winsl.

‖ Le premier transversaire antérieur. Winsl.

The muscles of the Head.

67

Is inserted partly into the Os Occipitis, and partly into the Os Temporis, near the Processus mammilaris. Insertion.

Its use is to nod or bend the head a little to one side. Use.

MUSCULUS CAPUT CONCUTIENS †

ARISES fleshy from the oblique process of the second and third Vertebra Colli, and ascending obliquely backwards, Origin.

Is inserted near the root of the transverse process of the first Vertebra. Insertion.

Its use is to shake the head; for the first Vertebra being thereby pulled to one side, the head must of necessity obey that motion by virtue of its articulation with the same. Use.

In a dog it is yet much more conspicuous, arising by two fleshy heads from the forepart of the oblique process of the second Vertebra Colli, and by one from the third, which uniting ascend obliquely, and terminate into the

† Le second transverse anterieur. Winsl.
Sextus intertransvers. Prior. Colli. Albin.

the transverse process of the first, between the Levator Scapulæ major and the Obliquus inferior.

C H A P. XIX.

Of the muscles of the NECK, that lie on its fore part.

THE neck or Collum has six muscles on each side, which I distinguish into common and proper: the proper are such whose use is confined to the Vertebra's of the neck only, as the Interspinales, the Intertransversales, and the Intervertebrales; the common are equally subservient to the motions of the neck and head. Of all these there's only one pair that appears in this posture of the body.

LONGUS

Origin.

ARISES tendineo-carnous from the bodies of the four or five superior Vertebrae of the Thorax laterally.

Insertion.

Is inserted into the forepart of the four lowermost Vertebrae of the neck by
so

The muscles of the lower Jaw.

69

so many small tendons covered over with flesh, into the third Vertebra by a small tendon, into the second by a very long and broad one, and into the first by one that is rounder, but not so large, being fleshy on both sides; it is also fastened to some of the transverse processes of the neck near their roots by small tendons.

Its use is to bend the neck to one side, but if both act to bring it directly forwards.

In a dog it appears as if were divided into as many distinct muscles by tendinous lines as there are Vertebra's in the neck.

N. B. The Scaleni belong to the Thorax.

C H A P. XX.

Of the muscles of the lower Jaw.

THE Maxilla inferior has five pair of proper muscles, and one pair common to it, with the cheeks, &c. viz. The Quadratus Genæ, called by Galen,

The muscles of the lower Jaw.

Galen, *Platysma myoides*, already described.

TEMPORALIS †

Origin.

ARISES fleshy from the anterior and lower part of the parietal bone laterally, from all the *Pars squamosa* of the temple-bone, from a little rising in the lateral part of the *Os Frontis*, and from the external part of its process, from part of the *Os Mali* internally adjoining to it, and from the upper part of the lateral process of the sphenoidal bone; from these distant origins its fleshy fibres tend towards the *Os jugale*, under which they pass.

Insertion.

Is inserted tendinous into the upper part of the *Processus corone*, in the duplicature of which tendon this *Processus* is inclosed as in a sheath, being continued down all its fore part to near the last *Dens molaris*, and tendinous and fleshy into the posterior part of this process, as far back as its neck.

Use.

Its use is to pull the lower jaw upwards.

N. B. The

† *Le Crotaphite*. Winfl.

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The muscles of the lower Jaw.

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N. B. The Crotaphite, or temporal muscle, is covered with a particular tendinous membrane, that springs from the bones, which give origin to the upper and semicircular part of this muscle, and passing over the same, contracts like it, and is inserted into all the Os jugale, and the adjoining part of the Os Frontis. Its use is to fortify this muscle in its action, by bracing it down at that time. When this membrane is removed, we meet with a few thin fleshy fibres, which terminate in the broad middle tendon of the muscle just as it passes under the yoke bone. The under side of this tendon, which appears as if it were composed of several small ones closely conjoined, is lined as it were by a great many more fleshy fibres, to prevent its being injured by the hardness or roughness of the subjacent bones. It runs down the two edges of a Sulcus in the forepart of the Processus corone tendinous and fleshy.

I have several observations relating to the structure of this muscle, which I design

The muscles of the lower Jaw.

sign to communicate, with many more, on a proper occasion.

In a dog it is a very thick and strong muscle, to the bulk of which the bigness of its head is much owing. It arises fleshy from the knob of the Occiput, the ridge or eminence between the two parietal bones, and some part of the Os Frontis, adbering to the cartilaginous ligament that fences the upper part of the orbit, the bone being here discontinued.

MASSETER

Origin.

ARISES by three tendinous and fleshy heads, which run in different directions. The first comes from the Os maxillare, where it joins the Os Mali, and from all the edge of the last named bone, which makes the ball of the cheek. The second

SPRINGS from the process of that bone, and the anterior part of the Apophysis of the Os squamosum; the fibres of these two beginnings intersect one another. The third head

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The muscles of the lower Jaw.

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ARISES from all the inner edge of the Os jugale, being easily separated from its other beginnings. The first two heads are

INSERTED into the inferior and external part of the lower jaw, from the angle to near its middle. The last head runs down straight, and is inserted tendineo-carnous into all the outside of the Processus Coronæ, and the neck of the lower jaw.

Its use is to pull the jaw upwards, and by reason of the above mentioned decussation, to move it backwards and forwards, for the better chewing and grinding of the meat.

In a dog it arises from most part of the Os jugale, and by a strong tendon from a protuberance in the Maxilla superior, a little above the last Dens molaris save one. Is inserted into a sharp process on the angle of the lower jaw below the condyle.

DICASTRICUS †

ARISES tendineo-carnous from the sides of a considerable Sulcus excavated

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near

† Biventer Maxillæ. Albin.

The muscles of the lower Jaw.

near the root of the Mastoidal process internally; its middle tendon sometimes passes through the Stylo-hyoidæus, but always through a ligament that comes from the Os hyoides, to which bone it is also fastened by tendinous fibres.

Insertion.

Is inserted tendinous and fleshy into the edge of the lower jaw, near its Commissure, above the Mylo hyoidæus.

Use.

ITS use is to pull the lower jaw downwards, being assisted by the Latissimus Colli when both act; but when one only is contracted, the Maxilla is moved outwardly to one side.

In a dog it has but one belly, which is very thick and large, arising fleshy interspersed with tendinous fibres from an acute bony process between the Processus mammillaris and the condyle of the Occiput; and terminates about the middle of the Maxilla by a large insertion.

PTERIGOIDÆUS INTERNUS †

Origin.

ARISES by tendinous and fleshy fibres from the inner and upper part of the largest

† Le grand Pterigoidien. Winsl.

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The muscles of the lower Jaw.

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largest wing of the pterigoidal process, possessing all that space or cavity between the two wings; besides, it has a second origin from that part of the Os Palati that's engaged between these two Alæ.

Is inserted into the inferior part of the lower jaw, near its angle internally. *Insertion.*

Its use is to draw the jaw to one side, *Use.* but if both act in concert, they must assist the temporal muscle in drawing it up.

PTERIGOIDÆUS EXTERNUS † Fall.

ARISES by two distinct beginnings, *Origin.* one tendineo-carnous from the edge of the external or broadest wing of the Processus pterigoides, and from part of the Os maxillare adjoining to it. The other is fleshy from two or three asperities in the lateral process of the Os sphænoidale, near the slit that transmits the blood vessels, &c. to the eye; as also from part of the Os squamosum

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sum

† Le petit Pterigoidien. Winsl.

The muscles of the lower Jaw.

sum near the cavity that receives the condyle of the jaw.

Insertion. Is inserted into a cavity in the neck of the Proceffus Condylodes internally, some of its fibres running up upon the membrane that fastens the moving cartilage to the said bone.

N. B. THIS moveable cartilage receives in like manner some fleshy fibres from the temporal and masseter muscles.

Use. ITS use is to pull the lower jaw forwards, and thrust the teeth out beyond those of the upper jaw.

Because in a dog these two pterigoidal muscles do both arise from the same side of the Proceffus aliformis, I choose to call the first Major, and the second or last described Minor, with respect to their different bigness.

C H A P. XXI.

Of the muscles of the THORAX,
that appear on its forepart, the
body lying supine.

RESPIRATION consists in the
alternate dilatation and contrac-
tion of the cavity of the thorax or
chest, which two necessary motions are
chiefly performed by thirteen pair of
muscles, of which some dilate and
widen the Thorax, by pulling the ribs
upwards and outwards in inspiration for
the reception of the air into the lungs,
others contract and narrow its capacity,
by pulling them downwards for the ex-
pulsion of the air from the lungs; and
again, some assist in both these actions,
as the Diaphragm does.

S C A L E N U S.

THIS may be divided into four di-
stinct muscles. The first ||, or that next

H 3

the

|| Scalenus prior. Alb.

La portion anterieure du premiere Sca-
lene. Winsl.

The muscles of the Thorax.

the gullet, arises tendinous from the fourth, fifth, and sixth transverse process of the neck, and

Insertion. Is inserted tendineo-carnous into the upper side of the first rib, near its cartilage.

Origin. THE second † arises from the second, third, fourth, fifth, and sixth transverse process of the neck by so many tendons, and

Insertion. TERMINATES into the first rib, some part of it being expanded over the fourth Scalenus.

Origin. THE third ‖ arises from the fifth and sixth transverse process of the neck, and

Insertion. Is inserted into the upper edge of the second rib.

THE

† Scalenus medius. Alb.

La portion posterieure du premier Scapene. Winsl.

‖ Scalenus posticus. Alb.

La portion posterieure du second Scapene. Winsl.

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The muscles of the Thorax.

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THE fourth † comes from the sixth Origin. and seventh transverse process of the neck.

Is inserted into the first rib, near its Insertion. articulation with the Vertebra.

THEY all assist in the elevation of the Ufe. ribs, and widening of the chest.

These muscles in a dog differ from the human in their number and insertions; for there's but three of them, and the insertion of the first, or innermost, is into the first rib; that of the second or middlemost, which is broad, fleshy and thin, is into the fifth or sixth rib, counting from above downwards.

N. B. WHAT Galen, Vesalius, and others, reckoned as the upper part or insertion of the Rectus Abdominis in apes, monkeys, dogs, &c. I have discovered to be a very distinct muscle, which arises fleshy from the first rib, and turning tendinous, is inserted into the Os Pectoris, under the tendon of the Rectus, the fibres of which are observed

† N. B. The fourth Scalenus of Douglas is described as one of the Levatores Costarum by Albinus and Winslow.

The muscles of the Thorax.

served to intersect one another. I call it, *Musculus in summo Thorace situs.*

SUBCLAVIUS

Origin. ARISES tendinous from the Clavicula just by its connexion with the upper part of the *Processus coracoides Scapulæ*, as also from the root of that process, closely adhering to the ligament that runs between it and the Clavicula. It soon becomes fleshy, and adheres to all the inferior part of that bone, near the extremity of which it runs off obliquely, and growing tendinous,

Insertion. Is inserted into the superior part of the first rib, near the ligament that connects the Clavicle to the same.

Use. ITS use is to pull the first rib upwards.

This is wanting in a dog.

INTERCOSTALES

Origin. ARISE from the lower edge of each superior rib, and

TERMINATE

The muscles of the Thorax.

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TERMINATE in the upper edge of Insertion. each inferior rib; that is, the Externi run obliquely from the back part forward, and the Interni from the fore part backwards; their fibres intersecting one another, not unlike the two strokes of the letter X.

THEY both serve to dilate the capacity of the Thorax. † Use.

TRIANGULARIS||

ARISES fleshy and a little tendinous Origin. from all the length of the Cartilago enfiformis laterally, and from the edge of the lower part of the Os Pectoris, from whence its fibres ascend obliquely upwards and outwards.

Is inserted into the cartilaginous ends of the fifth, fourth, and third true ribs Insertion.

† N. B. The internal Intercostals are deficient between the spine and the angle of the ribs, and the external are wanting near the Sternum. See a reason given for this by the ingenious Mr. Monro, in vol. i. art. xx. of Essays and Observations physical and literary.

|| Les Sterno-costaux communement le Triangulaire du Sternum. Winsl.

The muscles of the Thorax.

ribs near their conjunction with the bones.

Use.

Its use is to contract the cavity of the Thorax, by depressing the cartilaginous part of these ribs.

In a dog this pair of muscles is much larger than in man; and it is not improbable, that in this animal the discharge of part of the superfluous Serum of the blood (carried off in man by the excretory ducts of the miliary cutaneous glands, which a dog is destitute of) by Halitus, or by a more plentiful secretion in their salivary glands, may be much promoted by the joint action of these muscles; for we may observe, after a great fatigue, or any accelerated motion of the blood, while this creature lies or runs with its tongue lolling out, and breathes prodigious fast, there's a great deal of saliva separated.

DIAPHRAGMA

Is made up of two muscles. The Superior

Origin.

ARISES by two fleshy beginnings from the extremity of the Cartilago eniformis laterally, from part of the cartilages

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tilages of the seventh rib, and from the lower edge of the cartilaginous endings of all the inferior ribs, and the bony part of the last. The fibres from the Cartilago ensiformis are carried straight down, whereas all those from the ribs run obliquely inwards. The inferior muscle

ARISES on each side of the Vertebrae Lumborum by the following distinct beginnings.

1. Is fleshy from the side of the first Vertebra of the loins.

2. Is tendinous from the fore part of the second, third, and sometimes fourth Vertebra. This tendon is almost inseparable from some part of its fellow on the other side.

3. Is tendineo-carnous from the side of the second Vertebra, and often from the third also, especially on one side.

4. Its fourth origin is by a thin tendon from the root of the transverse process of the second Vertebra Lumborum ;
between

The muscles of the Thorax.

between this and the last rib the Triangularis runs up to its termination.

BOTH these muscles join in a middle tendon. The Midriff is perforated in its tendinous part by the ascending Vena Cava, and in the fleshy part of the superior muscle by the descending Gula, and Par vagum. Between its two tendinous productions, as they call them, the great artery descends, and the Ductus Thoracicus ascends from the receptaculum Chyli. Between these tendons on each side, and the body of the first Vertebra lumborum laterally, there is a fissure through which the Intercostal Nerves descend, and the Vena azygos proceeding from the Cava below the Emulgent, ascends on the right side. Between its adhesion to the side of this Vertebra and its transverse process, it makes as it were an arch with a tendinous border, under which the upper part of Psoas comes from the last Vertebra Dorſi, and the tendon of the Quadratus Lumborum passes that way to its termination there.

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The muscles of the Thorax.

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IN inspiration its superior surface is Use. contracted, and becomes more plain, whereby the cavity of the Thorax is enlarged to give more liberty to the lungs to receive the air, and the Viscera of the Abdomen are compressed for the distribution of the chyle, &c. In expiration its surface is convex towards the Thorax, whereby its cavity is lessened, and the air expelled out of the lungs.

In a dog the inferior muscle of the Diaphragm arises by four tendons, two short and two long.

COSTARUM DEPRESSORES PROPRII Cowperi †

ARISE tendinous from the upper part Origin. of the rib near its juncture with the transverse process of the Vertebra, but soon spreading into a broad and thin Insertion. fleshy belly, they march obliquely upwards under the Pleura over one rib, and terminate into that next above it; in number they are ten, being expanded

I all

† Les Sous-costaux. Winsl.

Intercostalium internarum partes. Albin.

The muscles of the Bladder.

all over the inside of the ribs from the back to near their middle.

Use.

THEIR use is to depress the ribs. Mr. Cowper discovered these muscles sometime ago, and having favoured me with his observation, I have named them, as above, from their use.

C H A P. XXII.

Of the muscles of the BLADDER of URINE.

THE Vesica Urinaria has two muscles.

SPHINCTER

Is only a few small orbicular fleshy fibres, placed under the external coat of the bladder, round its neck.

DETRUSOR URINÆ.

THIS muscle is only the second coat of the bladder, composed of muscular fibres, which run in different directions, upon the contraction of which the neck

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The muscles of the Anus.

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neck of the bladder opens, and the urine is forcibly squeezed out.

C H A P. XXIII.

Of the muscles of the ANUS.

THE extremity of the Intestinum rectum, called Anus and Podex, is provided with five muscles, two pair called Levatores, and a single one, which is its Sphincter.

LEVATOR MAGNUS, seu INTERNUS, †

ARISES from the Os Pubis between its juncture and the hole common to it with the Ischion, from the tendon that covers the Marsupialis, and from the acute process of the last named bone; between which and the lower part of the Os Coccygis it adheres to the Musculus Coccygæus, being both covered with one membrane. From this large beginning its fibres contract as it descends over the Marsupialis, having its

I 2 surface,

† Levator Ani. Albin. & Winsl.

The muscles of the Anus.

surface, which respects the cavity of the Abdomen, all covered with a tendinous membrane, and uniting with its fellow on the back of the Intestinum rectum, which they cover on all sides, except where the Prostrates and bulb of the Urethra adhere to it.

Insertion. Is inserted into the Spincter, its upper part being firmly annexed to the Os Coccygis.

Use. Its use is to draw the Anus upwards after the evacuation of the excrements, and in some measure to shut it also; at other times it keeps this gut from falling too low, which always happens in a relaxation of its fibres in a palsy.

In a dog, before it terminates, it appears divided into three or four portions, one of which on each side leaves the Rectum, and is inserted into the Cauda, which it depresses after the animal has thrust out its excrements.

LEVATOR

The muscles of the Anus.

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LEVATOR PARVUS, seu EXTERNUS,
Riol. †

ARISES tendinous and fleshy from the Origin.
protuberance or knob of the Ischium,
from whence it runs transversely to its Insertion.
termination into the Sphincter Ani,
near the bulb of the Urethra.

Its use is to assist the former. Use.

This is wanting in a dog.

SPHINCTER

THE Anus has two Sphincters; the Insertion.
first may be called Externus or Cutaneus,
which surrounds the Podex about the
breadth of one inch, being placed im-
mediately between the skin and the fat.
The second is named Internus and Va-
ginalis, whose fleshy fibres encompass
the lower end of the Intestinum rectum,
to the breadth of about an inch, being
forwards connected to the Accelerator
Urinæ, and backwards to the Levator
major.

I 3

Its

† Transversus Penis.

Transversus Perinæi. Albin.

Le Transversale de l'Urethre. Winsl.

The muscles of the Scapula.

ITS use is to hinder the involuntary excretion of the Fæces, by shutting up or closing the passage of the Rectum.

In a dog its circular fibres do not embrace the extremity of the Rectum so high as in man, and the reason of it is plain, because the pressure and weight of the Fæces Alvinæ is not so great on this part in a dog, the position of its body being prone, or horizontal, as it must be in man, whose posture is erect.

C H A P. XXIV.

Of the muscles of the SCAPULA.

THE shoulder-blade is moved by three pair of proper muscles, and two pair common to it with the Thorax, viz. the Serratus major Anticus, and Serratus minor Anticus.

Origin.

TRAPERIUS, seu CUCULLARIS,
ARISES by a thick and short tendon from the lower part of a protuberance in the occipital bone backwards, and from the rough line that's extended from

The muscles of the Scapula.

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from thence towards the *Processus mammillaris* by a thin membranous tendon, which covers some part of the *Complexus* and *Splenius*; besides, it arises tendinous from the spine of the last *Vertebra* of the neck, and from all the spines of the back, except the two lowermost.

Is inserted fleshy into the broad and *Inserion.* posterior part of the *Clavicula*, tendineo-carnous into one half of the *Acromion*, and into almost all the spine of the *Scapula*.

ACCORDING to the three directions *Use.* of its fibres it moves the *Scapula* variously, for its straight ones draw it directly backward, its obliquely descending pull it obliquely upward, and its obliquely ascending bring it obliquely downwards and backwards.

N. B. *GALEN* divides the *Trapezius* into two muscles, viz. the superior and the inferior. The first he calls *Trapezia*, and to the second later anatomists have given the name of *Cuculla*, from whence they are both commonly denominated

The muscles of the Scapula.

minated Cucullares. The inferior part of this muscle grows a little tendinous before it's inserted into the back part of the Spina Scapulæ; its upper part from the Os Occipitis to the spinal process of the last Vertebra Colli, is inseparably united to its fellow of the other side.

In a dog its superior origin comes from all the Ligamentum Colli that's below the rise of the Levator humeri proprius; that part of it which resembles the Cuculla springs from about the middle of the Vertebrae of the back; that series of fibres which pulls the Scapula directly backwards unites with the upper triangular part of this muscle by a thin tendon.

The Clavicle being wanting in a dog, it has no insertion there.

ELEVATOR, seu MUSCULUS PATIENTIÆ, †

Origin.

ARISES fleshy from the first, second, third, and sometimes fourth transverse processes of the Vertebrae Colli by so many distinct slips, which soon afterwards do all unite.

Is

† L'Angulaire ou Releveur propre. Winsl.

The muscles of the Scapula.

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Is inserted fleshy into that part of the *Insertion.*
Basis Scapulæ that's between its spine
and superior angle.

Its use is to pull the Scapula upwards *Use.*
and and a little forwards.

The elevation of this part in a dog is performed by two muscles, viz.

Levator major, vel anterior, Arises fleshy from the broad transverse process of the first Vertebra Colli. Is inserted in the upper part of the Spina Scapulæ, near its extremity, which makes the Acromion in man.

Levator Scapulæ minor, vel posterior, Arises tendinous from the Occiput, near its ridge, and descending close by the long portion of the Rhomboides, is inserted by a small tendon into the basis of that bone, near its upper angle.

RHOMBOIDES.

THIS muscle I find always divided into two distinct fleshy portions, joined by an intervening membrane. The uppermost †, which is the least, arises *Origin.*
tendinous from the last spinal process
of

† *Romboïdeus minor.* Alb.

The muscles of the Scapula.

of the neck, and some part of the Ligamentum Colli next above it; the inferior part of this muscle † arises tendinous from the spines of the four or five superior Vertebrae Dorsi. The upper part terminates into the basis of the Scapula, partly above, but chiefly below its Spine; and the inferior part is inserted into almost all the remaining part of the basis.

Use. Is to draw the Scapula obliquely upwards, and directly backwards.

In a dog it arises fleshy from all the Ligamentum Colli, which growing broader as it descends, unites with that portion coming from the spines of the back, near the upper angle of the Scapula.

† Romboïdeus major. Alb.

CHAP.

C H A P. XXV.

Of the muscles of the THORAX,
that appear in dissection, the
body lying prone.

IN the description of the Musculi Thoracis, which appear on its forepart, I forgot to premise their division into proper and common. The use of the first is confined only to the chest, but the latter are subservient to other parts, as well as it. Thus the Serrati Antici contribute to the motions of the Scapulæ, the Sacro-lumbi to the extension of the back, and the Scaleni move the neck towards the shoulder or first rib.

SERRATUS MAJOR ANTICUS †

ARISES fleshy from the whole basis Origin. of the Scapula internally, between the insertion of the Rhomboides, and the origin of the Subscapularis, being folded

as

† Serratus magnus. Alb. & Winsl.

The muscles of the Thorax.

as it were about the two angles of the Scapula.

Insertion. Is inserted into the eight superior ribs by an equal number of fleshy Digituli.

Use. ITS use is to dilate the Thorax, by pulling up the ribs, and according to some, to move the Scapula, into which (they alledge) it is inserted, forwards and downwards.

In a dog it arises fleshy from the five inferior transverse processes of the Vertebrae Colli by so many different heads, and tendineo-carnous from the seven superior ribs. The first, or uppermost order of its fibres, run obliquely downwards to their insertion into part of the Basis Scapulæ internally. The second order that comes from the ribs ascend obliquely, and are implanted not only into the Basis Scapulæ, but also broad and fleshy into part of its concave side. Its use in this animal is peculiar to the Scapula, which it moves according to the various direction of its fibres; and besides, it keeps the shoulder-blade from starting out, or rising up too high, when this animal stands or runs.

SERRATUS

The muscles of the Thorax.

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SERRATUS MINOR ANTICUS †

ARISES tendinous from the Proccus Origin.
coracoides Scapulæ, but soon grows
fleshy and broad.

Is inserted tendineo-carnous into the Insertion,
lower edge of the bony part of the third,
fourth and fifth rib.

Its use is either to assist the former, Use.
or to draw the Scapula forwards.

This is wanting in a dog.

SERRATUS SUPERIOR POSTICUS.

ARISES by a broad and thin tendon, Origin:
from the lower part of the Ligamen-
tum Colli, or rather from the tendinous
union of the Splenii, from the acute
process of the last Vertebra of the neck,
and from two or three of the uppermost
of the back.

Is inserted into the second, third and Insertion.
fourth ribs by as many particular fleshy
slips.

Its use is to expand the Thorax in Use,
the elevation of the ribs.

K SERRATUS

† Serratus Anticus. Albin.

Le petit pectoral. Winfl.

SERRATUS INFERIOR POSTICUS

Origin.

ARISES by a broad thin tendon from the spinal processes of the two inferior Vertebrae of the back, and from as many or more of the superior of the loins.

Insertion.

Is inserted fleshy into the lower edge of the three or four inferior ribs, tho' seldom into the last, but at a greater distance from the Obliquus Abdominis externus, than will admit of any indentation between those two muscles.

Use.

ITS use is to depress so many of the ribs, or at least to accelerate their motion downwards.

In a dog the Serratus superior posticus arises by a thin tendon from the lower part of the Ligamentum Colli, its last acute process, and from the eight superior processes of the back. Its insertion is into the nine uppermost ribs, excepting the first, by so many distinct fleshy Digituli. Its tendon joins in with that of the Serratus inferior posticus, and so makes as it were a strong tendinous bandage, which keeping the subjacent muscles very close toge-

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The muscles of the Thorax.

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ther, does vastly strengthen them in their actions.

SACRO-LUMBALIS

ARISES outwardly tendinous, and in- Origin.
wardly fleshy, in common with the Longissimus Dorsi, from the single uppermost spines of the Os sacrum, from the posterior part of the spine of the Ilium, from the inferior spines of the Vertebrae Lumborum, and by small tendons from near the roots of their transverse processes.

Is inserted by as many long and thin Insertion.
tendons as there are ribs, each of which terminates into the third rib, where it begins to be curved, above its parting from the body of the muscle, only its uppermost and last tendon ends in the transverse process of the seventh Vertebra Colli.

Its use is to pull the ribs down. Use.

N. B. FROM the upper part of the six or seven lower ribs arise so many small bundles of thin tendinous and fleshy fibres, which, after a very short progress, terminate in the inner side of this

K 2 muscle.

The muscles of the Thorax.

muscle. Steno calls them *Musculi ad Sacro-lumbum Accessorii*.

CERVICALIS DESCENDENS Diemerbr. †

Origin. ARISES fleshy from the third, fourth, fifth and sixth transverse process of the *Vertebræ Colli*, and

Insertion. Is inserted into the third, fourth, fifth, sixth and seventh rib, between the *Sacro-lumbalis* and the *Longissimus Dorsi*.

Use. Its use is to draw the ribs upwards in the act of inspiration.

COSTARUM LEVATORES Stenon. ||

WHICH I name *Levatores Proprii*, to distinguish them from the other muscles that perform the same office: they

Origin. ARISE tendinous and fleshy from the transverse processes of the *Vertebræ* of the back, whence being carried ob-

Insertion. liquely forwards, they soon terminate in the upper side of all the ribs, except the first.

THEIR

+ Le transversaire grele, ou transversaire collaterale du Col. Winsl.

|| Les Sur-costaux. Winsl.

The muscles of the Head.

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THEIR use is to lift up the ribs, and Use.
dilate the chest, which they do most
effectually, because the processes of the
Vertebra's serve as a Fulcimen to their
motion.

C H A P. XXVI.

Of the muscles of the HEAD, that
appear in the prone position of
the body.

S P L E N I U S †

ARISES by a great many long and Origin.
thin tendons from the five superior
spinal processes of the Vertebrae of the
back, tendinous and fleshy from the
last of the neck, and entirely tendinous
from the Ligamentum Colli; or rather
the tendons of the two Splenii unite
here inseparably, only about the second
Vertebra of the neck they recede from

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one

† Le Splenius ou Mastoïdien postérieure.
Winfl.

N. B. Albinus divides this muscle into two,
viz. Splenius Capitis & Splenius Colli.

The muscles of the Head.

one another, so that part of the subjacent muscle may be seen.

Insertion. Is inserted by one tendon into the transverse process of the second Vertebra Colli; and by two, for the most part, into that of the first; and tendineo-carnous into the under and fore-part of the Processus mammillaris, from whence it's carried backwards on the Occiput.

Use. Its use is to bring the head backwards laterally; but when both act, to pull the head directly backwards.

In a dog it terminates in the transverse process of the first Vertebra Colli, and into the posterior and lateral part of the occipital bone. Backwards it is intimately conjoined with its fellow of the other side, from the sharp process of the last Vertebra Colli to the Occiput, from which commissure, or joining, there runs down a thin transparent membrane to all the Ligamentum Colli.

TRACHELO

TRACHELO MASTOIDÆUS, seu CAPITIS
PAR TERTIUM, Fallop. †

ARISES from the transverse process of Origin.
the first and second Vertebrae Dorfi, and
from the three or four lowermost of the
neck, by so many thin tendons, which
uniting form a pretty thick fleshy belly,
that runs up under the Splenius, and

Is inserted into the middle of the Insertion.
backside of the Processus mastoidæus by
a thin tendon.

Its use is to assist the Complexus. Use.

N. B. THIS muscle often receives a
roundish fleshy slip from the Longissimus
Dorfi.

*In a dog it's inseparably united with the
tendon of the Splenius, at its termination in
the Occiput.*

COMPLEXUS

† Le petit complexus, ou Mastoïdien la-
teral.

COMPLEXUS †

Origin.

ARISES tendinous and fleshy from the six or seven superior transverse processes of the Vertebrae of the back, and from all those of the neck, except that of the first, by so many distinct beginnings; in its ascent it adheres to the spinal process of the last Vertebra Colli, and to the ligament that runs from thence to the second Vertebra, where it leaves its fellow of the other side, and runs off obliquely forwards to its termination.

Insertion.

Is inserted fleshy into the Os Occipitis, between the upper part of the Obliquus superior, and the edge of the protuberance, observable in the middle of that bone.

Use.

IF one muscle acts, the head is thereby pulled a little to one side; but if both act

† Le grand Complexus. Winsl.

N. B. A part of this muscle is sometimes found distinct from the rest, and is called by Albinus, Biventer Cervicis.

The muscles of the Head.

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act in concert, the head is extended, or drawn directly backwards.

N.B. THE Complexus seems to derive some part of its origin from the oblique processes of the Vertebrae of the neck.

In a dog it arises from the four superior transverse processes of the back by so many thin and small tendons, as also from the five lower ones of the neck by so many different heads, not unlike the Digituli of the great serrated muscle, which uniting form a large fleshy belly, that terminates tendinous in the lateral part of the Occiput, near its ridge.

RECTUS MAJOR †

ARISES fleshy from one of the double Origin. spines of the second Vertebra of the neck, and grows broader in its ascent, which is not straight, but obliquely outwards, being as it were divided into two thin portions, the innermost of which

Is inserted into the Occiput, near the Insertion. Rectus lateralis; the other, which is the broadest, ends in the same bone under

† Rectus Capitis, posticus major. Albin.

The muscles of the Head.

der part of the Obliquus major, tendinous and fleshy.

Use. Its use is to extend, or pull the head backwards.

This in a dog is double; the first, or Rectus major, comes from the lower part of this spinal process; the second, which I call Rectus medius, proceeds from the upper part of the same spine.

RECTUS MINOR ||

Origin. ARISES narrow from a little protuberance in the middle of the back part of the first Vertebra Colli, close by its fellow, and

Insertion. Is inserted pretty broad (its inner edge being only covered by the Rectus major) into the sides of a dimple in the Os Occipitis, near its great Foramen.

Use. Its use is to assist the Rectus major in nodding or bowing the head a little backwards.

OBLIQUUS

† Rectus Capitis, posticus minor. Albin.

OBLIQUUS SUPERIOR †

ARISES from the transverse process of Origin.
the first Vertebra of the neck.

Is inserted tendinous and fleshy into Insertion.
the Os petrosum and Occipitale, between the back part of the Processus mamillaris and the Musculus complexus.

It serves for the oblique or semi-Use.
circular motion of the head.

This in a dog is also double; one muscle arises fleshy from the extremity of the transverse process of the first Vertebra Colli, the other springs from all the upper edge of the same process, and both seem to unite about their insertion into the Occiput.

OBLIQUUS INFERIOR ||

ARISES fleshy from the spinal process Origin.
of the second Vertebra Colli, and from some part of the body of the same next the spine.

Is inserted into the transverse process Insertion.
of the first.

ITS

† Le petit oblique. Winsl.

|| Le grand oblique. Winsl.

The muscles of the Neck.

Use.

Its use is to assist the former.

In a dog it arises from the edge of the long spine of the second Vertebra Colli.

C H A P. XXVII.

Of the muscles of the NECK, that lie on its back part.

SPINALIS †

Origin.

ARISES by a great many tendinous and fleshy fibres from the five superior transverse processes of the Vertebrae of the back; ascending obliquely under the Complexus.

Insertion.

Is inserted into the fifth, fourth, third, and second spinal process of the neck, by four small tendons.

Use.

Its use is to extend the neck, by drawing it directly backwards.

In a dog it much better deserves this name, because it accompanies all the spines of the neck,

† Les Vertebraux externes du Demi-épineux, ou Transversaire-épineux du Col. Winsl.

The muscles of the Neck.

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neck, arising from the top of the first spinal process of the back, and running straight to that of the second spondyle of the neck, being firmly fastened to the sides of all the intervening acute processes.

TRANSVERSALIS †

ARISES tendinous and fleshy, partly Origin. from the oblique processes of the four inferior Vertebrae of the neck, and partly from the space between them and the transverse ones, being only a continuation of the same series of muscular fibres that compose the muscles of the back, of the same name.

Is inserted near the root of the superior spines of the neck; yet the uppermost termination is not only into the spine of the second Vertebra, but also into the body of the same spondyle laterally. Insertion.

Its use is to move the neck directly Use. backwards, if both act; and obliquely backwards, if one only acts.

L

In

† Pars Multifidi Spinæ. Albin.

Les Vertebraux internes du Demi-epineux, ou Transversaire-epineux du Col. Winsl.

The muscles of the Neck.

In a dog the insertion of this muscle is into the bodies of the Vertebrae of the neck.

INTERSPINALES Cowp.

Origin. ARISES fleshy from the superior part of each double spinal process of the neck, except the uppermost, which comes from the body of the first Vertebra, and are

Insertion. INSERTED into the inferior part of all the said spines.

Use. THEIR use is to bring these acute processes near each other.

INTERTRANSVERSALES Cowp.

THE distance between the transverse processes of the Vertebra's of the neck, most of which are bifid or forked, is filled up with a fleshy substance, arising from the inferior, and ascending to its

Origin.

Insertion. insertion at the superior process.

Use. THEIR use is to approximate these transverse Apophyses.

INTER-

The muscles of the Neck.

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INTERVERTEBRALES *** †

THEY arise from the body of one Origin.
Vertebra laterally, and are

INSERTED after an oblique progress Insertion.
into the back part of the other Vertebra
immediately above it.

THEIR use is to draw the bodies of Use.
the Vertebra nearer one another, and a
little to one side.

N. B. THE number of these little
small muscles is very uncertain, because
they vary in most subjects; the last
pair, being the slenderest of all, are
chiefly conspicuous upon the back part
of the first and second, and second and
third Vertebra.

In a dog they are all larger than in man.

† Partes Multifidi Spinæ. Albin.

C H A P. XXVIII.

Of the muscles of the BACK.

TH^{O'} the muscles that lie upon the Vertebrae of the back and loins do appear, even in the opinion of the great Fallopius, to be only a confused mass, or indigested heap of tendinous and fleshy fibres, extremely intricate, and so variously interwoven one with another, that it seems very difficult, if possible, to separate them; yet, in my anatomical exercises, I always demonstrate them, having in all subjects found them regular and uniform, fairly and distinctly divided into eighteen muscles, nine on each side; one of which belongs to the Thorax, viz. the Sacro-lumbalis, already described; three to the back, and five to the loins. Galen and Mr. Duverney think it indifferent, either to reckon these muscles, which they call Spinales and Vertebrales, as one pair only, or to multiply their number according to that of the Vertebrae; but in
my

The muscles of the Back.

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my judgment the last would breed a great deal of confusion, and the first shews but little of an artist.

LONGISSIMUS

THE origin of this muscle is in common with that of the Sacro-lumbalis. Origin.

Is inserted into all the transverse processes of the back by a double tendon into each; from its outside there go off several Fasciculi of fleshy fibres, interspersed with a few tendinous filaments, which are soon inserted into the lower edge of most of the ribs, not far from their Tubercle. Insertion.

Its use is to extend the Vertebrae of the back, and so keep the trunk of the body erect.

N. B. From the superior part of this muscle there runs up a round fleshy portion, † which becoming tendinous, unites with the carnous part of the Par tertium Fallopii, which I have called Trachelo-mastoidæus.

L 3

SEMI-

† An transversalis Cervicis. Albin. & le grand Transversaire du Col. Winsl. ?

The muscles of the Back.

SEMISPINALIS †

Origin. ARISES from the transverse processes of the six or seven lowermost Vertebrae of the back by so many distinct tendons, which soon grow fleshy, and then becoming tendinous again, are

Insertion. INSERTED tendinous into all the superior spinal processes of the back, and into the lowermost spine of the neck.

Use. Its use is to assist the following.

TRANSVERSALES DORSI INTERIORES ‖

Origin. ARISE tendinous and fleshy from the upper part of the transverse processes of the back; then growing all fleshy, they run over the next Vertebra, and are

Insertion. INSERTED near the root of all its spinal Apophyses.

Use. If they all act on one side, they extend the back obliquely, or move it laterally;

† Les Vertebraux externes du Demi-epineux, ou Transversaire-epineux du Dos. Winsl.

‖ Pars Multifidi Spinæ. Albin.

Les Vertebraux internes du Demi-epineux, ou Transversaire-epineux du Dos. Winsl.

The muscles of the Loins.

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terally; but if they work together, they extend the *Vertebræ dorsales* by pulling them backwards.

C H A P. XXIX.

Of the muscles of the LOINS.

THE *Vertebræ* of the loins are moved by five pair of muscles.

SPINALIS Cowp.

ARISES tendinous and fleshy from the *Origin.*
superior single spines of the *Os sacrum*,
in common with the *Sacro-lumbalis* and
Dorsi longissimus, and

Is inserted tendinous into all the spi- *Insertion.*
nal processes of the *Vertebræ Lum-*
borum.

Its use is to extend the aforesaid *Use.*
Vertebræ.

TRANSVER-

TRANSVERSALIS LUMBORUM, vulgò
SACER, †

- Origin.** ARISES fleshy from the oblique processes of the Vertebrae of the loins, and
- Insertion.** Is inserted near the root of their spinal ones.
- Use.** ITS use is to move the Vertebrae Lumborum after the same manner that the Transversales do those of the back.

QUADRATUS ||

- Origin:** ARISES broad and tendineo-carnous from the posterior part of the spine of the Ilium.
- Insertion.** Is inserted into the transverse processes of all the Vertebrae Lumborum, except the last, into the last rib, and by a small tendon that creeps up under the Diaphragm into the last Vertebra of the back laterally.

N. B. FROM

† Le Transversaire-epineux de Lombes. Winsl.

Pars Multifidi Spinæ. Albin.

|| Le Quarré, ou Lombaie externe. Winsl.

The muscles of the Loins:

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N. B. FROM the fourth, third, and sometimes the second transverse process, there arise so many small muscles which unite with this *Quadratus* on its inside, that respects the cavity of the Abdomen.

ITS use is to move the loins to one side, and when both act together to bend the *Vertebræ* straight forwards.

In a dog it arises from the spine of the Ilium internally, and ascending, adheres to all the transverse processes of the loins; then entering the cavity of the Thorax, it tends tendinous and fleshy in its tenth or ninth Vertebra, counting from above downwards.

PSOAS PARVUS Riol.

ARISES fleshy from the upper *Vertebra* of the loins laterally.

Is inserted by a long flat thin tendon into that part of the *Os Pubis*, where it joins the *Ilium*.

ITS use is to assist the *Recti Abdominis* in drawing the *Os Pubis* upwards, as in raising ourselves from a decumbent posture, as Mr. Cowper writes. It may

The muscles of the Loins.

may also serve to bend the loins forwards; but then its beginning must be drawn from the Os Pubis, and its termination be fixed in their Vertebrae.

This in a human body is often mis'd, but never in a dog, arising from the bodies of the four lowermost Vertebrae Dorsi, and as many of the upper spondyles of the loins, by so many small tendons laterally, and fleshy from the middle of all the same Vertebrae laterally. It soon turns into a broad and thin tendon, expanded over the great Psoas.

INTERTRANSVERSALES ***

THESE lie between the transverse processes of the loins, arising from all the edge of one, and terminating into that of the other.

Ufe. Their use is to bring these Apophyses nearer each other.

It was in a dog that I first discovered these small muscles, and I have never since missed them in the human body.

CHAP.

C H A P. XXX.

Of the muscles of the HUMERUS,
or ARM.

THE Os Humeri, or shoulder-bone,
is moved by nine muscles.

P E C T O R A L I S

ARISES fleshy from near half the anterior part of the Clavicula, and from the cartilaginous endings of the fifth and sixth ribs, where it always detaches a Fasciculus or two of fleshy fibres, which run down upon the membrane that covers the Musculus Abdominis externus, and is described very accurately by R. Columbus; besides, it derives another origin from almost all the length of the Sternum by a great many short and small tendons, which plainly decussate those on the other side.

Is inserted by two strong and broad tendons, which cross one another, at the upper and inner part of the Os Humeri, between the Deltoides and Biceps.

ITS

The muscles of the Arm.

Use.

ITS use is to move the arm upwards.

N. B. Its superior tendon gives rise to the Involucrum, or tendinous ligament that binds in one of the heads of Biceps.

In a dog the fibres of this muscle run in three different directions, and may be easily divided into three muscles.

The largest arises by an acute fleshy beginning from the Cartilago ensiformis, and from almost all the Sternum, and is inserted by a short and strong tendon into a protuberance in the head of the Os Humeri, and by a membranous tendon into the same bone lower down.

The second muscle lies on the outside of this, arising from near the extremity of the Cartilago ensiformis, and ascending, is partly inserted with the former, and partly runs down upon the muscles lying on the inside of the Humerus.

The third, which from its position deserves the name of Transversalis, arises from the upper part of the breast, and crossing over the first, terminates below it, by a strong and broad

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The muscles of the Arm.

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broad tendon, all along the fore part of the Os Humeri externally.

DELTOIDES

ARISES fleshy from all the posterior Origin. and external part of the Clavicle that the Pectoralis does not possess, tendinous and fleshy from the lower margin of the fore part of the Spina Scapulæ, and intirely tendinous from the posterior part of the same.

Is inserted tendinous and fleshy at a Insertion: rough protuberance in the fore part of the arm about its middle, the fibres of its Apex or point being intermixed with some part of the Brachiaëus internus.

Its use is to pull the arm directly up- Use. wards, and that either somewhat forwards or backwards, according to the different direction of its fibres.

In a dog it arises tendineo-membranous from almost all the spine of the Scapula; that part of it which springs from the Acromion seems to be distinct from its other origin, but yet cannot be divided without violence; its action is all upwards and outwards, because

M

it

The muscles of the Arm

it has no beginning from the Clavicle, which is wanting, to direct it inwards.

SUPRASPINATUS

Origin. ARISES fleshy from all the Basis Scapulæ that's above its spine, as also from its spine and upper Costa.

Insertion. Is inserted tendinous into that part of the protuberance on the head of the Os Humeri that's next the canal of the Biceps.

Use. ITS use is to lift or move the arm upwards.

INFRASPINATUS

Origin. ARISES fleshy from all that part of the Basis Scapulæ that's between its spine and its lower angle, from the spine as far as its Cervix, and from the edge of all that Fossa that runs above its inferior Costa.

Insertion. Is inserted by a thick and short tendon into the upper part of a rough and flattish protuberance on the head of the Os Humeri.

Use. ITS use is to pull the arm directly backwards.

N. B. I. ON

The muscles of the Arm.

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N. B. 1. ON the inside of this muscle one may observe two or three large tendons run along its fleshy substance.

2. THIS and the former are both covered with a tendinous membrane, which not only strengthens their actions, but also keeps them from swelling too much outwardly in acting.

In a dog, through its middle lengthways, there runs a tendon from which the fleshy Fibrillæ run off on each side, like the Stamina of a feather.

TERES MINOR

ARISES fleshy from all the round Origin. edge of the inferior Costa Scapulæ, being in all subjects, that ever I dissected, distinguished from the Infraspinatus by a very considerable membrane.

Is inserted tendinous a little below Insertion. the termination of the last named muscle, and fleshy a little lower upon the neck of the Os Humeri.

Its use is to assist the bigger round Use. muscle, in bringing the arm backwards.

The muscles of the Arm.

In a dog it arises by a thin tendon, which closely adheres to the Infraspinatus from the middle of the lower edge of the Scapula, and turning into a round fleshy belly, it passes obliquely over the head of the Longus to its tendinous insertion.

TERES MAJOR

Origin. ARISES fleshy from the inferior angle of the Scapula, and from all that portion of its lower rib, or Costa, that is rough and thicker than the rest, its fleshy fibres being continued over part of the Infraspinatus, to which they firmly adhere.

Insertion. Is inserted by a short, broad and thin tendon, at a roughness a little below the head of the Os Humeri internally; and tho' 'tis very closely joined to the tendon of the Latissimus Dorsi, yet they part before their insertions into that bone.

Use. ITS use is to move the arm backwards and downwards.

LATISSIMUS

LATISSIMUS DORSI

ARISES by a thin tendon from the Origin. posterior part of the spine of the Ilium, from the superior spines of the Os sacrum, from all those of the Vertebrae Lumborum, and from seven or eight of the lowermost ones of the back, below the Rhomboides; besides, it has another origin tendinous and fleshy from the extremity of the bony part of the four or five lowermost ribs, near their cartilages, by so many distinct slips. I never found it adhere to the inferior angle of the Scapula by any carnous fibres, it being only connected by membranes to the Teres major and Rhomboides.

Is inserted by a strong and thin tendon upon the edge of the channel of the Biceps, near the termination of the pectoral muscle. Insertion.

Its use is to pull the arm backwards and downwards. Use.

N. B. IN some muscular dissections since this specimen was made publick,

M 3

I observed

The muscles of the Arm.

I observed a small bundle of fleshy fibres to arise from the outside of the Basis Scapulæ near its inferior angle, and adhering to the upper part of this muscle in its progress along the Costa inferior of the shoulder-blade, to be lost into the same, just where it begins to grow tendinous. That this is so in all bodies I am apt to believe, tho' before this I had never remarked it.

In a dog, when this muscle arrives at the Teres major, it parts with a thin fleshy production, which running down upon the Longus Cubiti, terminates tendinous into the Ancon. A little before its insertion it receives the Membrana carnosæ, which fleshy pannicle or membrane is a thin carnosous expansion which covers the muscles that lie on the upper part of the Os Femoris, the Ilium and Sacrum, the Abdomen, Dorsum, and most part of the Thorax; as it comes near the Axilla, it narrows and grows thicker, and then joins in with this muscle, where it terminates. By the contraction of its fibres the skin is wrinkled, and the hairs on the back made to stand erect when this animal is angry or afraid.

CORACO-

CORACO-BRACHIALIS

ARISES partly tendinous, and partly Origin. fleshy, from the under side of the Processus Coracoides Scapulæ near its tip, adhering in its descent to one of the heads of the Biceps.

Is inserted tendineo-carnous about Insertion: the middle of the internal part of the Os Humeri, sending down a thin tendinous expansion to the inner condyle of that bone.

Its use is to lift or move the arm up- Use. wards. Through this muscle passeth a large branch from the fourth pair of nerves of the neck, which constitutes the first Brachial pair.

In a dog it's a small thin muscle, arising from a protuberance in the upper part of the superior Costa Scapulæ by a very slender tendon, which passing over the head of the Humerus, grows fleshy, and is so inserted into the inside of that bone, about an inch or more below its neck.

SUBSCA-

SUBSCAPULARIS

Origin.

ARISES fleshy from all the basis of the Scapula, from all its superior Costa, and about one half of its inferior; besides, it has two tendinous beginnings arising from two little protuberances, seated in the hollow part of this bone near its basis, at two or three inches distance one from another, which tendons are continued through the fleshy part of the muscle to its ending, being subdivided into many more as it passes over the juncture.

Insertion.

Is inserted tendinous into the upper edge of the protuberance, on the head of the Os Humeri laterally.

Use.

ITS use is to bring the arm close to the ribs.

THE tendon of this, with that of the Infra and Supra-spinatus, adheres firmly to the membrane that involves the articulation of the Humerus with the Scapula; but they may be all easily divided one from another, without cutting their tendinous fibres.

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In a dog it only fills up three parts of the concave or hollow part of the Scapula, the *Serratus Anticus major* possessing the rest.

Besides the nine pair of muscles above described, a dog has two more: the first I name

Levator Humeri proprius. It arises membranous and fleshy from all the space between the tendinous ending of the *Mastoidæus*, and the ridge of the *Occiput*, and from the upper part of the *Ligamentum Colli*; this large beginning contracts and grows narrower, as it runs obliquely down the neck, closely adhering to some part of the *Levator Scapulæ major*, and passing over the articulation of the *Humerus*, goes straight down to its insertion in the fore part of the same bone, near the flexure of the *Cubit*; between the *Biceps* and *Brachæus internus*. The second I call

Musculus ad Levatorem accessorius. It arises from the *Os Occipitis*, near the insertion of the thick tendon of the *Mastoidæus*, and becoming a thick fleshy muscle, runs down to its insertion into the *Levator proprius*, being there of an equal breadth with it. Just above the head of the *Os Humeri*, near the
termination

The muscles of the Cubit.

termination of this muscle, there's placed a small falcated cartilaginous bone, tied to the Scapula and top of the Sternum by two small ligaments, which seems to be an imperfect Clavicle.

In cats this muscle is inserted into the whole length of their Clavicula, which it serves to lift up. But in this animal the use of this accessory muscle seems calculated for the assistance of the Levator, which serves to raise the Os Humeri upwards, and at the same time to turn it a little outwards, whereby the fore feet are kept from interfering or cutting one another in running or leaping.

C H A P. XXXI.

Of the muscles of the CUBIT.

THE Cubit, or fore-arm, reaching from the extremity of the Os Humeri to the wrist, and composed of two bones, viz. the Ulna and Radius, has five muscles.

BICEPS

BICEPS INTERNUS †

ITS first and outermost head arises *Origin.*
tendinous from the Cervix-scapulæ,
near the upper and narrow edge of its
cavity, called Acetabulum, which in its
descent is inclosed in a channel in the
head of the Os Humeri by a membra-
nous ligament that proceeds from the
pectoral muscle. The second, or inner-
most, arises tendinous and fleshy from
the Processus Coracoides Scapulæ. A
little below the middle of the fore part
of the arm these heads unite.

Is inserted by a strong and thick ten- *Insertion.*
don into all the Tubercle on the upper
end of the Radius internally.

ITS use is to bend the cubit. *Use.*

N. B. About the flexure of the cu-
bit, or bending of the elbow, where it
it begins to grow tendinous, it sends off
an Aponeurosis, first taken notice of by
that celebrated anatomist, Mr. Cowper,
vid. Myotom. reformat. page 147. which
covers

† Biceps Brachii. Albin.

Le Coraco-radial, ou Biceps. Winsl.

The muscles of the Cubit.

covers all the muscles on the inside of the cubit. Its fibres decussate those of another tendinous membrane that lies under it.

In a dog it consists but of one head, arising from the Cervix-scapulæ; and on that account I call it Flectens Cubitum anterior, because it lies above the following muscle.

BRACHIALIS INTERNUS †

Origin. ARISES fleshy from the middle of the Os Humeri at each side of the termination of the Deltoides muscle, filling up all the space between the two edges of this bone.

Insertion. Is inserted by a very strong tendon into the upper and fore part of the Ulna.

Use. ITS use is to assist the former.

In a dog it arises broad and fleshy from the back part of the Humerus, just under its neck; from thence it runs obliquely to the fore part of that bone, and then proceeds as in man.

BICEPS

† Le Brachial. Winsl.

The muscles of the Cubit.

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BICEPS EXTERNUS †

THE first head, called Longus, ¶ arises Origin: broad and tendinous from the Costa Scapulæ inferior, and a little fleshy from its neck. The second head, called Brevis, § arises by an acute, tendinous and fleshy beginning from the Os Humeri, about an inch below its head. Upon the back side of the Humerus, these two, with the following muscle, join their fibres, and are

INSERTED into the upper and exter- Insertion: nal process of the Ulna, called Ancon.

ITS use is to extend the cubit.

Use.

BRACHIALIS EXTERNUS †

ARISES by an acute fleshy beginning Origin: from the Os Humeri, a little higher than the insertion of the Teres major. About
N the

† N. B. The two heads of this, and the following muscle, are described by Albinus, under the name of Triceps Brachii.

¶ Le grand Anconé.

§ L'Anconé externe.

‡ L'Anconé interne.

The muscles of the Cubit.

the middle of the arm it passes under the Longus, with which it mixes fibres to the external ridge of that bone, being continued down the same to the condyle of that side, where some of its fibres join inseparably with the Angonæus; the rest ending in the Ancon, with those of the Longus and Brevis.

N. B. THE Brachiaëus externus, and the Biceps externus, or Gemellus, make but one single muscle with three heads, to which I give the name of Triceps Cubiti, or Extensor Cubiti magnus Triplici principio natus.

ANGONÆUS, vel CUBITALIS, Riol. †

Origin.

ARISES by a round and short tendon from the back part of the external condyle of the Os Humeri; this soon grows fleshy, and is so intangled with part of the Brachiaëus externus, that there can be no separating them without violence.

Insertion.

Is inserted fleshy and thin into the lateral part of the Ulna, a few inches below the Olecranon.

ITS

† Anconeus. Albin.

Le petit Anconé. Winsl.

The muscles of the Cubit.

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Its use is to assist in extending the Use.
Cubitus.

In a dog the extension of the cubit, or Ulna, is performed by the joint action of five very distinct muscles.

Extensor primus, or longus, arises as in man, and becomes a very thick and fleshy belly, but gradually contracting, grows tendinous, and is so inserted into the upper and external part of that process of the Ulna, called Ancon in human bodies.

Extensor secundus, or Brevis, arises from the superior and back part of the Humerus, just under its smooth head, and descending under the Longus, turns into a small tendon, which passing through a Sulcus in the extremity of the Ulna, ends a little below the Longus.

Extensor tertius, which is something analogous to that head of the Triceps Cubiti, called Brachiaëus externus, is a pretty thick fleshy muscle, arising from the upper and posterior part of the Humerus, at a protuberance near the ending of the Teres minor; it ends in the outside of the Ancon.

The muscles of the Hand.

Extensor quartus, vel Anconæus, fills up a cavity or hollow between the heads of the Ulna and Radius, arising and terminating as in man.

Extensor quintus arises by a thin tendon from the inside of that protuberance, into which the Supra-spinatus of the Scapula is inserted, and passing under the tendon of the Teres major, becomes fleshy, and ends tendinous on the inside of the Ancon.

C H A P. XXXII.

Of the muscles of the PALM of the HAND.

THE muscles of the Palma, or Vola Manûs, are two.

PALMARIS LONGUS †

Origin.

ARISES tendinous from the internal protuberance of the Os Humeri; it soon becomes fleshy, and within a few inches becomes tendinous again. About the Ligamentum

† Le cubital gresse, Winsl.

The muscles of the Hand:

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Ligamentum Carpi annulare it expands itself into a broad disgregated tendon, (giving some filaments to the Ligamentum annulare, to the Abductor Pollicis, and to the Flexor of the first internode) between which and the skin there lies a great deal of fat. Near the lower end of the metacarpal bones it is decussated by a great many tendinous straight fibres, which run upon it from one side to the other.

ITS insertion is by two small tendons *Insertion.* into the sides of the cartilage that lies upon the articulation of each finger, with the Offa Metacarpi.

ITS use is to contract the palm of the *Use.* hand, and so assist it to grasp any thing closely.

N. B. THIS muscle does sometimes spring from the Ligamentum annulare.

It is wanting in a dog.

PALMARIS BREVIS, Joan. Bapt. Cannan. vel CARO QUADRATA †

Origin. ARISES by a membrane-like tendon from the superior and external part of the Os Metacarpi minimi Digiti; whence ascending obliquely, and adhering to the fourth bone of the Carpus that lies upon the third, it grows fleshy in two or three places, being separated by intervening membranes; and passing under the Palmaris longus,

Insertion. Is inserted tendinous into the Ligamentum annulare, and into that bone of the Carpus that articulates with the thumb. The upper part of this tendon adheres to the Abductor Pollicis, and its lower part to the Flexor secundi Internodii ejusdem.

Use. ITS use is to make the palm of the hand hollow, by drawing the ball of the thumb towards the Os Metacarpi, that sustains the little finger, and so forms what they call Diogenes's cup.

This is wanting in a dog.

† Le Palmaire cutané. Winsl.

CHAP.

C H A P. XXXIII.

Of the muscles of the WRIST.

THE Carpus, or wrist, composed of eight small bones, situate between the extremities of the Ulna and Radius, and the upper part of the metacarpal bones, is furnished with four muscles, and yet all of them, as Veslingius remarks, terminate in the bones of the Metacarpus.

FLEXOR CARPI RADIALIS †

ARISES tendinous and fleshy from the Origin. internal protuberance of the Os Humeri, and from the rough edge of all the anterior process of the Ulna, where it firmly adheres to the Pronator Radii Teres.

Is inserted by a flat tendon into the Insertion. fore and upper part of the Os Metacarpi, that joins with the fore-finger, having run through a Sinus, or cavity, in the bone of the wrist, that articulates with the

† Radialis internus. Albin. & Winsl.

The muscles of the Wrist.

the thumb, being there bound in by a membrane which parts it from the tendons of the other muscles, which with it pass under the Ligamentum annulare.

Use.

Its use is to bend the wrist, together with the hand, and when it acts in conjunction with the Radialis extensor, the wrist is moved laterally towards the Radius.

FLEXOR CARPI ULNARIS †

Origin.

ARISES tendinous from the same Tubercle of the arm-bone. It has likewise a narrow fleshy beginning from the side of the Ancon, between which and its tendinous origin a large branch of the brachial nerve, called Ramus Ulnaris, passes to the Cubit. In its descent, according to the length of the Ulna, it's covered by a tendinous expansion in common with the other muscle that lie on the outside of the Cubit; and by this only it seems to adhere to the external edge of that bone.

Is

† Ulnaris internus. Albin.

Le Cubital interne. Winsl.

The muscles of the Wrist.

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Is inserted by a short and strong tendon into the fourth bone of the first rank of the Carpus, placed upon the third ; at some distance from its termination, there goes a ligament from this little bone to the Os Metacarpi minimi Digiti, which some reckon to be a continuation only of the tendon of this muscle.

Insertion.

Its use is to assist the former, in bending the Carpus.

In a dog it makes two distinct muscles ; the largest arises tendinous from the inner Tubercle of the Humerus, near the edge of the Sinus, that receives the Ulna ; is inserted into the bone of the Carpus that stands out of rank. The lesser has a thin fleshy origin continued from the Ancon, about an inch down the inside of the Ulna ; and terminates into the same bone with the bigger, at some distance from it.

EXTENSOR CARPI RADIALIS

MAKES two very distinct muscles ; the first which I call Longus, or superior,

Origin. rior, † arises broad, thin, and fleshy, from the lower part of the external ridge of the Os Humeri, between the Supinator Radii longus and the Condyle. The other, which I name Brevis, or inferior, § springs tendineo-carnous from the same protuberance of the Os Humeri: they both lie on the outside of the Radius, the last continuing fleshy lower down than the first. The Longus

Insertion. Is inserted into the upper part of the bone of the Metacarpus, that sustains the fore-finger: the Brevis into that which stays the middle-finger; both being tendinous.

Use. ITS use is to extend the wrist, and bring the hand backwards.

In a dog it may properly enough be called Bicornis; because it cannot, without great violence, be parted at its origin.

EXTENSOR

- † Radialis externus longior. Albin.
Le Radial externe premiere. Winsl.
- ‡ Radialis externus brevior.
Le Radial externe second.

EXTENSOR CARPI ULNARIS †

ARISES tendinous from the external Origin: protuberance of the Os Humeri, between the Anconæus and Extensor Digitorum communis, and fleshy from the upper part of the Cubit laterally, descending according to the length of this bone, its round tendon being inclosed in a channel dug in its extremity; from which to its termination, it passes through a ligament like a sheath.

Is inserted tendinous into the superior Insertion: part of the metacarpal bone, that supports the little finger.

Its use is to assist the muscle last described.

N. B. It is covered with a tendinous expansion, continued down from some of the tendons of the extensors of the cubit, which Aponeurosis is finely expanded over all the muscles that lie on the outside of the fore-arm, as that of the Biceps is on those of its inside.

WHEN

† Ulnaris externus. Albin.

Le Cubital externe. Winsl.

The muscles of the four Fingers.

WHEN this and the Flexor Ulnaris act at once, the wrist, with the hand, is moved sideways towards the Ulna.

In a dog it bestows a tendon on the bone of the Carpus, that stands upon another, on which account, this pulls the Carpus a little outwards in extension, which is of very great advantage to this animal in running.

C H A P. XXXIV.

Of the muscles of the FOUR FINGERS.

THE muscles of the four fingers I divide into common and proper: the common are such as belong to all the four fingers, being thirteen in number, viz. one Extensor, two Flexors, four Lumbricales, and six Interossei.

PERFORATUS †

Origin.

ARISES tendineo-carnous from the inner protuberance of the Os Humeri, tendinous from the anterior process of the

† Sublimis. Albin.

The muscles of the four Fingers.

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the Ulna, near the edge of its lunated cavity, and tendineo-membranous from about the middle of the fore part of the Radius; being so continued from near the beginning of the Flexor pollicis magnus, three or four inches down that bone: its fleshy belly divides into four tendons, before it passes under the ligament of the wrist, and these are

INSERTED into the superior part of Insertion.
the second bone of each finger, that which goes to the little one, being by far the smallest. In the palm of the hand they are united to one another, and to those of the muscle next in order by soft slimy membranes; about the middle of the first joint they are divided for the free passage of the tendons of the Perforans, and where they unite again one may observe a very fair decussation of some of the tendinous filaments of one side running a cross to the other; then subdividing, as Mr. Cowper has well remarked, they march for some space upon the edges of the bones before
O they

The muscles of the four Fingers. they are lost upon their upper part, as I have in all subjects observed.

Use. ITS use is to bend the second joint of the fingers.

In a dog the tendons of this muscle are not slit for the passing of those of the Perforans, but they form a round case as long as the first joint, which covers those on all sides in their passage; having only a little hole of an oval figure on its outside. They end without any subdivision.

PERFORANS †

Origin. ARISES fleshy from all the upper part of the Ulna laterally, being continued down its external ridge, or spine, to its middle, from the inner edge and fore part of that bone, and from one half of the ligament that joins it to the Radius; the thick, superior, fleshy part of this muscle is firmly kept in by the Fascia tendinosa that covers the muscles lying on the outside of the fore-arm, as has been already remarked: splitting into four tendons a little before it passes the transverse

† Profundus. Albin.

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The muscles of the four Fingers.

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transverse ligament of the Carpus, they run through the fissures, or slits, made in the former tendons, being continued farther on to their insertion into the third bone of all the four fingers.

ITS use is to bend the last joint of the Use. fingers.

In a dog it arises by three distinct fleshy originations; the outermost proceeds from the upper and middle part of the Radius, the innermost arises from the upper part of the Ulna, being farther continued down most of its edge: both these heads are very small; but the middlemost makes a very large big bellied muscle, seemingly divided into two or three, which springs from the internal protuberance of the Os Humeri. Those three unite and form a thick and broad tendon, which soon splits into five small ones; four terminating as in man, and the fifth ending in the thumb.

LUMBRICALES

THESE four muscles arise thin and ^{Origin.} fleshy from the outside of the tendons of the Flexor profundus, a little below

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The muscles of the four Fingers.

Inserion. the Ligamentum transversale; to which, in their descent, they adhere for some space, but parting from thence they grow round and pretty large. They terminate by long and slender tendons, which run over the transverse cartilaginous ligament, placed upon the articulation of the first bone of the fingers, with those of the Metacarpus, into the broad tendons of the Interossei, about the middle of the first Internode next the thumb laterally.

Use. They are said to assist in bending the first joint of the fingers.

EXTENSOR DIGITORUM COMMUNIS

Origin. ARISES by an acute tendon from the outward extuberance of the Os Humeri, between the Extensors of the Carpus, closely adhering to the Supinator Radii brevis. Before it passes under the Ligamentum Carpi, it splits into four flat tendons, each of which may be divided into a great many smaller. It's chiefly about the extremity of the metacarpal bones that they remit tendinous filaments

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The muscles of the four Fingers.

149.

ments to each other. These tendons are

INSERTED into the upper part of the ^{second} bone of each of the four fingers, being tacked to the first joint in their way thither.

ITS use is to extend the first and second joint of the fingers.

In a dog it runs to the last bone of each toe, between the two ligaments that go from the second Internode to the third. The use of these ligaments is to draw the last joint backwards and upwards, and keep it suspended, that the extending tendon may not always be upon the stretch, as shall be more fully explained in another place.

INTEROSSEI

ARE well divided into external and internal. The external fill up all the space that the bones of the Metacarpus leave towards the back of the hand: the internal, which, properly speaking, deserve not the appellation of Interosseï, arise from the fore part of the metacarpal bones that respects the palm of the

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The muscles of the four Fingers:

hand, being only conspicuous in the Vola, and not in the Dorsum Manûs; whereas the external are apparent in both.

Origin.

THE first † interosseous muscle arises tendinous and fleshy from all the fore part of the Os Metacarpi Indicis, between its head and condyle; as also from the upper part of the Os Metacarpi medii Digiti. This, which is the first of the internal, belongs to the side of the fore finger, next the middle one.

Origin.

THE second, ‖ which is the first of the external, arises from most of the outside of the Os Metacarpi medii Digiti, and a little tendinous from its fore part, just under its head, being conspicuous both towards the back and palm of the hand. This runs along the side of the middle finger next the Index.

THE third, § which is the second of the external, and runs along the other side

† Posterior Indicis. Albin.

‖ Prior Medii. Albin.

§ Posterior Medii. Albin.

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The muscles of the four Fingers.

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side of the middle finger, fills up all the space between its metacarpal bone and that which supports the ring finger; from both which it springs, as also from some of the fore part of this bone laterally, being likewise very conspicuous in the palm of the hand.

THE fourth, † which is the second of Origin. the internal, belongs to the side of the ring finger, next the middle one, arising from all the fore part of its metacarpal bone below its head.

THE fifth, ‖ which is the third of the Origin. external, runs along the other side of this finger, and fills up all the space between the metacarpal bone of this and that of the little finger, on the back of the hand, arising from both those bones.

THE sixth, § or third of the internal, Origin: runs along the side of the little finger, next the ring finger, and arises tendi-
nous

† Prior Annularis. Albin.

‖ Posterior Annularis. Albin.

§ Interosseus Auricularis. Albin.

The muscles of the four Fingers.

nous and fleshy from the anterior edge of all its metacarpal bone.

ALL these muscles of both kinds pass under the transverse cartilaginous ligament, already described, and then each of their fleshy bellies forms two tendons; one is soon

Insertion. INSERTED into the upper part of the first Internode laterally; the other is dilated very broad, so as to cover most of the first joint adhering to the tendon of the Extensor; then, narrowing a little as it approaches the upper part of the second Internode, where the last named muscle ends, it runs obliquely along that bone to its termination at the superior part of the last joint of the finger, having first joined with its fellow of the other side.

Use. WHEN the long tendons act, they extend the last Internode, and so supply what was wanting in the Extensor magnus; and when the short ones are in action, the fingers are moved laterally, i. e. they are either brought nearer, or drawn further from the thumb.

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The muscles of the four Fingers.

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In a dog, something analogous to these, I observe six muscles; four of which are large, placed not between, but in the hollow of the metacarpal bones, and run straight down: the other two are very small, and run oblique. The large arise tendinous and fleshy from the superior part of the metacarpal bones adhering to the same in their descent: at the Os sesamoidæum of the first joint, each divides into two tendons, and running obliquely along the sides of the finger, or paw, they unite inseparably with the tendon of the Extensor, near the lower part of the first bone of each fore toe.

The first of the two little ones belongs to the fore toe, or Index; it arises from the upper part of the Os Metacarpi medii Digiti, and descending obliquely grows tendinous about the first joint, and terminates near the middle of this bone laterally internally.

The second arises from the Os Metacarpi of the third fore toe, or finger, and after an oblique progress, ends in the inside of the first bone of the little fore toe. Their use is to bring those two toes nearer the middle ones.

THE

The muscles of the Fore-Finger.

THE proper muscles of the fingers are such as belong either to the fore or little finger.

C H A P. XXXV.

Of the muscles of the FORE-FINGER.

THE fore-finger, or Index, has three Muscles.

EXTENSOR SECUNDI INTERNODII
INDICIS PROPRIUS, vulgò
INDICATOR. †

Origia. ARISES by an acute fleshy beginning from the middle of the Ulna, immediately below the Extensores Pollicis, turning tendinous, it passes under the same annular ligament with the Extensor communis.

Insertion. Is inserted at the upper part of the second joint, on the inside of the Extensor Magnus.

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† L'Extenseur propre de l'Index. Winsl.

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The muscles of the Fore-Finger. 155

ITS use is to extend the fore-finger a Use.
little obliquely.

In a dog it's inserted into the last joint.

EXTENSOR TERTII INTERNODII INDICIS. †

ARISES fleshy from all the outside of Origin.
the Os Metacarpi, that sustains the
Index.

Is inserted by two tendons like the Insertion.
Interossei, i. e. by a short one into the
upper part of its first bone laterally;
and by a broad and long one into the
upper part of its last bone, being united
with the Musculus Interosseus primus.

THE short tendon draws the Index Use.
from the rest, and so may retain the
appellation of Abductor; the long ten-
don assists this Interosseous in extending
the third or last joint of the fore-finger.

This muscle is wanting in a dog.

† Interosseus prior Indicis. Albin.

ABDUCTOR

ABDUCTOR †

Origin. ARISES broad and fleshy from the superior part and outside of the first bone of the thumb.

Insertion. Is inserted by a short tendon into the upper part of the first bone of the fore-finger, laterally, next the thumb.

Use. ITS use is to bring the Index towards the thumb, by drawing it from the middle finger; whence, in respect of THIS, it may be stiled Adductor, and in respect of THAT Abductor.

This is wanting in a dog.

C H A P. XXXVI.

Of the muscles of the LITTLE-FINGER.

THE Digitus Auricularis has three proper muscles, and one common to it with the Extensor Communis, reckoned by some a proper muscle, and named

EXTENSOR

† Adductor Pollicis. Cowp.

Le Demi-interosseux de l'Index. Winsl.

The muscles of the Little-Finger.

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EXTENSOR MINIMI DIGITI.

IT's said to arise from the external protuberance of the Humerus, and from the upper part of the Ulna; but, in my opinion, it ought not to be reckoned a muscle distinct from the Extensor communis, because it cannot be separated from it without cutting. Truth it is, it passes its tendon under a Ligamentum annulare, distinct from the other three tendons, but that is far from being sufficient to constitute a particular muscle.

N. B. IT is commonly inserted by two tendons; besides which the little finger has often another tendon from the Extensor communis.

ALL that prominent, soft, fleshy mass, that lies on the Os Metacarpi minimi Digiti, in the palm of the hand, is called in Greek, Hypothenar, in as much as it's placed below that part called Thenar. This I find always easily divisible into three muscles, viz.

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EXTENSOR

The muscles of the Little-Finger.

EXTENSOR TERTII INTERNODII
MINIMI DIGITI †

Origin. ARISES fleshy, mixed with some tendinous fibres from the bone of the Carpus, that stands upon the third of the first rank, as also from the ligament that ties that bone to the Os Metacarpi of the little finger.

Insertion. Is inserted after the manner of the Interossei, i. e. by a short tendon into the upper part of the first bone of this finger laterally, and by a long tendon into the upper part of the last bone, having joined the Interosseous of the other side.

Use. Its use is to help to extend this last joint, and to draw the finger from the rest when the short one only acts.

† Abductor minimi Digiti. Albin.
Le petit Hypothenar. Winsl.

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The muscles of the Little-Finger.

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ABDUCTOR MINIMI DIGITI,
HYPOTHENAR Riol. †

ARISES fleshy from the thin protuberating part of the eighth bone of the wrist.

Is inserted by a pretty long and round tendon, on the inside of the short tendon of the above described muscle, near the upper part of the first bone of this finger.

It serves not only to abduce the little finger from the rest, but also to bend it a little.

FLEXOR PRIMI INTERNODII MINIMI
DIGITI ||

ARISES tendinous and fleshy from the inferior part of the thin edge of the eighth bone of the wrist, and from all the inner side of the Os Metacarpi, that sustains this finger: at the condyle or

P 2

round

† Flexor parvus minimi Digiti. Albin.

|| Adductor ossis Metacarpi minimi Digiti. Albin.

Le Metacarpien. Winsl.

The muscles of the Thumb.

round part of this bone it divides into two tendons, which are inserted on each side of the upper part of the first bone of the finger.

Use.

Its use is to assist in bending the first internode of the little finger.

These three are wanting in a dog.

C H A P. XXXVII.

Of the muscles of the THUMB.

THE thumb, or Pollex Manûs, which is equal in strength to all the rest of the fingers, opposite to which it is placed like another hand, is moved by nine muscles.

FLEXOR TERTII INTERNODII †

Origin.

ARISES by an acute fleshy beginning from the upper part of the Radius, a little below the termination of the Biceps, which origin is continued down for some space on the fore part of this bone,

† Flexor longus Pollicis Manûs. Albin. & Winsl.

The muscles of the Thumb.

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bone, in a double order of short fleshy fibres, ending in the tendon that runs in their middle.

Is inserted into the third or last bone *Insertion.* of the thumb, having passed its tendon under several annular ligaments that come from one side of its second bone to the other side.

Its use is to bend this last joint. *Use.*

FLEXOR SECUNDI INTERNODII †

THIS may be divided into two di- *Origin.* stinct muscles, between which the tendon of the former muscle runs. The outermost arises from the bone of the Carpus, with which the thumb is joined. The innermost arises from part of the same bone, and also from the upper part of the Os Metacarpi Indicis, and medii Digiti, in common with the Adductor. They are both

INSERTED into the two Ossa Sesa- *Insertion.* moidæa of the second joint of the thumb.

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THEIR

† Flexor brevis Pollicis Manus. Albin.

The muscles of the Thumb.

Use.

THEIR use is to bend this joint of internode.

FLEXOR PRIMI INTERNODII †

Origin.

ARISES fleshy from the Ligamentum transversale, and the bone of the Carpus that articulates with the thumb, lying under the Abductor.

Insertion.

Is inserted fleshy into all the inside of the first bone of the thumb.

Use.

ITS use is to bend this joint.

EXTENSOR PRIMI INTERNODII ‡

Origin.

ARISES fleshy from the upper and external part of the Ulna, immediately below the termination of the Anconæus, from the back part of the Radius, below its Supinator Brevis, and from the membranous ligament that ties these two bones together.

Insertion.

Is inserted always by two, and very often by three distinct tendons; the first is a large and round tendon, which seems to be a bundle of a great many small

† Opponens Pollicis. Albin.

‡ Abductor longus Pollicis. Albin.

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The muscles of the Thumb.

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small ones, terminating into the upper part of the first bone of the thumb; the second tendon is lost in the fleshy beginning of the Abductor Pollicis; and the third, which in some subjects is wanting, is implanted into that bone of the Carpus that articulates with the thumb.

ITS use is to extend the first bone of Use. the Pollex.

EXTENSOR SECUNDI INTERNODII †

ARISES fleshy from the back part of Origin. the Radius, about the middle of the fleshy belly of the former, unto which in its descent it firmly adheres; it has a second origin from some part of the membranous ligament.

Is inserted into the upper part of the Insertion. second bone of the thumb.

ITS use is to extend the second in- Use. ternode.

EXTENSOR

† Extensor minor Pollicis. Albin.

N. B. Winslow describes this and the preceding muscle as one, under the name of Le premier Extenseur du Pouce.

The muscles of the Thumb.

EXTENSOR TERTII INTERNODII †

Origin.

ARISES by an acute, tendinous and fleshy beginning from the Ulna, a little below the origin of the first Extensor, as likewise from the ligament that connects the two bones. Its tendon runs in a proper channel at the extremity of the Radius.

Insertion.

Is inserted into the third and last bone of the Pollex.

Use.

ITS use is to extend the last joint, in bringing it backwards.

ABDUCTOR, THENAR RIOL. ‡

Origin.

ARISES by a broad, tendinous and fleshy beginning from the transverse ligament of the Carpus, and from one of its bones that articulates with the thumb.

Insertion.

Is inserted tendinous into the second joint of the Pollex Digitorum Manûs.

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† Extensor major Pollicis. Albin.

Le second Extenseur du Pouce. Winsl.

‡ Abductor brevis Pollicis Manus. Albin.

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The muscles of the Thumb.

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Its use is to draw the thumb from Use.
the fingers.

ADDUCTOR AD INDICEM,
ANTITHENAR RIOL.

ARISES from the outside of the upper Origin.
part of the Os Metacarpi Indicis.

Is inserted into the first joint of the Insertion.
thumb, sending of a thin tendon, which
runs along with the Extensor pollicis
longus.

Its use is to draw the thumb nearer Use.
the fore-finger.

ADDUCTOR AD MINIMUM DIGITUM †

ARISES a little tendinous, but chiefly Origin.
fleshy from the whole length of the me-
tacarpal bone, that sustains the middle
finger, from thence its fibres contract-
ing equally on both sides do run up to
the thumb.

Is inserted into its second joint, a Insertion.
little below one of its seed-like bones.

Its use is to bring the thumb towards Use.
the ring and little-finger.

The

† Adductor Pollicis Manus. Albin.

The muscles of the Radius.

The thumb of a dog, or that range of bones set off at some distance from the other fingers, or claws, is only provided with one Extensor, and one Flexor.

Extensor, the origin, progress and termination of this muscle is very little different from the Extensor tertii Internodii Pollicis in man, being a thin, flat muscle, partly tendinous, and partly fleshy, which fills up the cavity or hollowness between the Ulna and Radius.

Flexor is an exceeding small muscle, which arises fleshy from one of the bones of the Carpus, and ends so into the second Internode of what is analogous to a thumb in this animal.

C H A P. XXXVIII.

Of the muscles of the RADIUS.

THE Radius, or second bone of the cubit, is bended and extended by the muscles of that part already described in common with the Ulna; but besides, it has four muscles subservient

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The muscles of the Radius.

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to its own motions of pronation and supination.

PRONATOR TERES

ARISES fleshy from the Os Humeri, Origin. a little above its internal protuberance, tendinous and fleshy from that process, and entirely tendinous from the anterior Apophyses of the Ulna.

Is inserted thin and tendineo-carnous Insertion. into the middle of the external part of the Radius.

Its use is to turn the Radius, together with the Carpus and whole hand inwards, and the palm downwards; which motion is called pronation.

PRONATOR QUADRATUS

ARISES broad, membranous and fleshy from the lower and inner part of the Ulna, and passing transversely,

Is inserted, of the same breadth, into the external and lower part of the Radius.

Its use is to assist the former in the prone position of the hand.

In

The muscles of the Radius.

In a dog it lies upon the membrane that joins the two bones of the cubit together, to both which it adheres, and near the lower end of the Ulna it sends off a tendon obliquely to the extremity of the Radius, where it terminates.

SUPINATOR LONGUS

Origin.

ARISES acute and fleshy from the external ridge of the Os Humeri, two or three fingers breadth above the beginning of the Bicornis.

Inserction.

Is inserted into the external and inferior part of the Radius, near the Carpus.

Use.

ITS use is to turn the Radius, &c. outwards, and the palm of the hand upwards, which motion is called Supination.

This is wanting in a dog.

SUPINATOR BREVIS

Origin.

ARISES tendinous from the external protuberance of the Os Humeri, and tendineo-carnous from the external and upper part of the Ulna, adhering strictly

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The muscles of the Thigh.

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to the membrane that involves the articulation of these two bones.

Is inserted into the inside of the Radius above, but chiefly below, the insertion of the Biceps.

Its use is to assist the former, in pulling the Radius backwards in the supine position of the hand.

C H A P. XXXIX.

Of the muscles of the THIGH.

THE Os Femoris, or thigh-bone, has sixteen muscles.

PSOAS MAGNUS

ARISES fleshy from the body of the lowermost Vertebra Thoracis laterally, from the sides of all the Vertebrae of the loins by so many carnosus distinct slips, and a little tendinous from all their transverse processes;

Is inserted tendinous into the lesser Trochanter of the Os Femoris, and fleshy

Q

The muscles of the Thigh.

fleshy into the bone a little below that process.

Use. Its use is to bend the thigh, by bringing it forwards.

ILIIACUS INTERNUS

Origin. ARISES fleshy from all the inner lip of the semicircular part of the Ilium, from the edge of that bone between its anterior spine and the Acetabulum, and from most of its Costa or hollow part. It joins in with the former, where it begins to become tendinous, in common with which it is inserted.

Use. Its use is to bend the thigh, and bring it directly forwards in progression.

PECTINALIS †

Origin. ARISES broad and fleshy from the spine, or superior and inner part of the Os Pubis.

Insertion. Is inserted into the Os Femoris, a little below the lesser Trochanter, by a flat and short tendon.

Use. Its use is to bend the thigh bone, by drawing it upwards.

† Pectineus. Albin,

In

The muscles of the Thigh.

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In a dog it arises by a round and fleshy beginning from the Os Pubis, and soon turns into a broad and thin tendon, which terminates at the inner condyle of the Femur.

GLUTÆUS MAXIMUS

ARISES fleshy from the upper part Origin.
of the Os Coccygis, membranous and
fleshy from all the double spines of the
Os sacrum, and one or two of its lower-
most single ones, from all the external
edge of that bone, below the posterior
spine of the Os Ilium, from two liga-
ments that run from the Ischion to the
Os sacrum; i. e. one from its sharp
process, the other from its Tubercle
(over which part of this muscle hangs
in a large fold) and entirely fleshy from
more than one half of the circular edge
of the Ilium, from the rest of which
forwards it springs by a thin and broad
tendon, through which one may disco-
ver part of the subjacent muscle, being
inseparably joined to that of the Mem-
branosus.

Is inserted by a large and thick ten- Insertion.
don into the Femur, at a very conside-
rable

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The muscles of the Thigh:

able roughness at one side of the upper part of the Linea Femoris aspera, a little below the great Trochanter.

Use. Its use is to extend the thigh, by pulling it directly backwards.

GLUTÆUS MEDIUS

Origin. ARISES fleshy from all the outer lip, or edge of the spine of the Ilium, except its posterior part, where it springs from the Costa of that bone.

Insertion. Is inserted into the breadth of the great Trochanter by a broad tendon, which runs after an oblique manner.

Use. Its use is to assist the former.

GLUTÆUS MINIMUS

Origin. ARISES fleshy from the lower part of the outer or back side of the Os Ilium, forwards from the edge of its anterior spine, and backwards from the edge of its great Sinus.

Insertion. Is inserted by a large tendon along the fore and upper part of the great Trochanter, and by a small one into the neck of the Os Femoris.

N.B. I mean, some part of the Its
tendinous fibres of the glutæus
minimus are spread upon the
membrane that involves that
part of the bone. -

The muscles of the Thigh.

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Its use is to assist the two former in Use. extending the thigh.

In a dog I call the first *Glutæus, Externus*, it arises membranous from almost all the external part of the spine of the Ilium, which joining with another fleshy beginning from the Sacrum, and from the ligament that's extended between that bone and the Ischium, it becomes altogether carnosous about the middle of the muscle that lies under it, and terminates tendinous a little below the great Trochanter externally.

The second, or *Medius*, is by far the largest, and arises fleshy from all the spine of the Ilium, filling up the hollow part of that bone, being inserted tendinous into the upper and external part of the great Trochanter.

The third, or *Internus*, arises fleshy from the middle of the *Os Ilium* externally, adhering in its descent to both its sides; the superior and inner part of the great Trochanter being the place of its partly tendinous, and partly fleshy insertion.

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PYRIFORMIS,

The muscles of the Thigh.

- Origin.** PYRIFORMIS, seu ILIACUS EXTERNUS,
 ARISES thick, broad, and fleshy from the inferior part of the Os sacrum next the Ilium; from which bone also it derives some part of its origin, growing gradually narrower it becomes tendinous, and
- Insertion.** Is inserted into the upper part of the dent or cavity, at the root of the great Trochanter.
- Use.** ITS use is to move the Os Femoris upwards, and turn it somewhat outwards.

MARSUPIALIS, seu OBTURATOR
INTERNUS,

- Origin.** ARISES fleshy from the Os Ilium, Ischium and Pubis, round the internal circumference of the great hole common to the two last named bones. Its inside is tendinous, being divided into several small ones, which unite before its termination.

Is

The muscles of the Thigh.

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Is inserted tendinous into the dent or *Insertion.*
cavity, at the root of the great Tro-
chanter.

ITS use is to assist the former, in *Use.*
moving the Os Femoris obliquely, and
semicircularly outwards.

G E M I N I

ARE two very distinct muscles united *Origin.*
by a carnos membrane, both above
and below, forming as it were a Mar-
supium, or purse, for the reception of
the tendon of the last described muscle.
The superior arises from the acute pro-
cess of the Ischium, and the inferior
from the outer part of the knob, or
blunt protuberance of that bone, as
also from the ligament that runs from
thence to the Os sacrum. They are
both

INSERTED fleshy into the cavity of *Insertion.*
the great Trochanter.

BETWEEN these two small muscles *Use.*
the tendon of the Marfupialis runs to
its insertion, and they serve not only to
turn the Os Femoris outwards, but to
preserve

The muscles of the Thigh.

preserve that tendon from being hurt by the hardness of the sinuosity of the Ischium which it passes through, as also to hinder it from slipping out of that cavity, while the muscle is in action.

QUADRATUS FEMORIS

Origin. ARISES broad, tendinous, and fleshy, from the outside of the protuberance of the Os Ischii, and passing transversely,

Insertion. Is inserted into the outside of the great Trochanter, reaching as low down as the little one.

Use. Its use is to bring the thigh bone outwards.

In a dog it arises from the Tubercle of the Ischium, and fore part of the same bone near the great Foramen

TRICEPS.

UNDER this appellation are comprehended four very distinct muscles, which, from their use, I name as follows;

ADDUCTOR

The muscles of the Thigh.

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ADDUCTOR FEMORIS PRIMUS †

ARISES by a strong roundish tendon, *Origin:*
from the upper part of the Os Pubis,
next the Pectinæus above the Gracilis;
which turning into a compact fleshy
belly, it begins to be

INSERTED tendinous about the mid- *Insertion:*
dle of the Linea aspera, being conti-
nued down upon the same five or six
inches, sending out a tendon which
joins in with that of the fourth head.

ADDUCTOR FEMORIS SECUNDUS ‖

ARISES from the Os Pubis, imme- *Origin,*
diately under the Gracilis, by a broad
tendinous, but chiefly fleshy beginning,
and

Is inserted into the Linea aspera, *Insertion.*
from a little below the lesser Trochanter,
to the first insertion of the last described
muscle.

ADDUCTOR

† Adductor longus Femoris. Albin.

Le premier Muscle du Triceps. Winfl.

‖ Adductor brevis Femoris. Albin.

Le second Muscle du Triceps. Winfl.

The muscles of the Thigh.

ADDUCTOR FEMORIS TERTIUS †

Origin.

ARISES lower down than the former, from the outer edge of the Os Pubis and Ischium; and running obliquely towards the Trochanter minor,

Insertion.

Is inserted near the Glutæus maximus.

ADDUCTOR FEMORIS QUARTUS

Origin.

ARISES from the protuberance of the Ischium, and the adjoining interior part of that bone, by a tendinous and fleshy origination.

Insertion.

Is inserted by a round and long tendon into the upper and rough part of the inner and lower appendix of the Os Femoris, being affixed to that bone a little above the condyle, as also to some part of the Linea aspera.

THE

† N. B. The third and fourth Adductor of our author, are described as one muscle by Albinus and Winslow, under the names of Adductor magnus Femoris, and Le troisieme Muscle du Triceps.

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The muscles of the Thigh.

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THE use of all these four muscles Use, is to adduce or move the thigh-bone inwards, according to their different directions.

OBTURATOR EXTERNUS

ARISES fleshy from all the lower part Origin: of the Os Pubis and Ischium, round the outer circumference of their great Foramen, adhering firmly to its membrane.

Is inserted by a strong tendon into a Insertion: cavity at the root of the great Trochanter.

ITS use is to turn the thigh-bone obliquely outwards.

In a dog there's yet observable a small fleshy muscle arising from the Os Ilium, near the edge of its cavity, called Acetabulum; and running obliquely over the articulation of the Femur, is inserted into that bone between the Vastus internus and Cruræus. I name it Musculus parvus in articulatione Femoris situs.

CHAP.

C H A P. XL.

Of the muscles of the Os COCCYGIS.

THE bone joined to the extremity of the Os sacrum, called Coccyx, has one muscle on each side, which I call

COCCYGEUS ***

Origin. It arises tendineo-carnous from the acute process of the Os Ischium, between the ligament that reaches from thence to the Os sacrum, and one of the heads of the Gemini: from this narrow beginning it gradually dilates itself into a thin fleshy belly, interspersed with some tendinous fibres.

Insertion. Is inserted into the whole length of the Os Coccygis laterally, as also into the inferior part of the Os sacrum in some subjects.

Use. Its use is to draw that bone inwards or forwards, after the excretion of hardened Fæces, &c.

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The muscles of the Leg.

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N. B. THE two ligaments that antagonise this pair of muscles, shall be exactly described in my Human and comparative Osteology, which I design to publish in a short time. In my enquiry after a muscle mentioned by the famous Riolan, under the name of Levator Ani quintus, which he says Coccygi & Offis sacri extremo affigitur, I happily discovered this muscle.

The tail of a dog, which is only an elongation of this bone, is furnished with abundance of muscles subservient to its many motions: but with their particular descriptions, I think it needless either to trouble myself or the reader.

C H A P. XLI.

Of the muscles of the LEG.

THE leg, made up of two bones, called Tibia and Fibula, has eleven muscles; of which, those that arise from the Os Innominatum, and are inserted into either of these two bones,

R are

The muscles of the Leg.

are reckoned common both to the thigh and leg, whereas those which spring from the Os Femoris, and end in the Tibia, are accounted proper to the leg only.

MEMBRANOSUS †

Origin.

ARISES by a narrow, tendinous and fleshy beginning, from the fore part of the spine of the Ilium externally; a little below the great Trochanter its fleshy belly grows wholly tendinous, and covers the two Vasti and Rectus, being firmly affixed to all the Linea aspera, in its descent.

Inserction.

ITS proper termination is into the superior appendix of the Tibia laterally, between its tubercle and the head of the Fibula, sending down an expansion to envelope the Tybialis Anticus. From the inside of the thigh it is continued down upon the leg, without any remarkable adhesion to the head of the Tibia in its way thither.

ITS

† Tensor Vaginæ Femoris. Albin.

Le Muscle Aponeurotique, ou Muscle du Fascia lata. Winsl.

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The muscles of the Leg.

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Its use is to extend the leg, and turn Use.
it a little outwards; and by virtue of
its large Aponeurosis, it mightily
strengthens the action of the muscles,
over which it is spread, by keeping
them tight in their places, &c.

*In a dog it is divided into two very
distinct muscles: the superior springs from
the spine, and half the Costa of the Os Ilium,
forming a thick fleshy belly as it descends
straight upon the Rectus; and about three or
four inches below its origin, it dilates into a
membranous tendon, by which it is inserted
into the Patella and head of the Tibia. Which
Fascia, or tendinous expansion, is extended and
spread over that of the Biceps; and together
with it, covers all the muscles of the same
side down to the foot. Now the contrary
disposition or decussation of the fibres of these
two Fascia's, do very much strengthen the
action and augment the force of the muscles
that lie under them.*

*The inferior arises from the lower part of
the superior Costa of the Ilium, thin and
fleshy, a little below that it becomes membra-
nous, and is expanded over the two Vasti and*

R 2

Rectus,

The muscles of the Leg.

Rectus, firmly adbering to the inside of the thigh-bone; its tendinous expansion joins in with that of the *Glutæus Medius* below the great Trochanter.

SARTORIUS

Origin.

ARISES tendinous from the fore part of the spine of the *Os Ilium* internally, but soon becomes fleshy; and descending, runs down for some space upon the *Rectus*, and then going obliquely inwards, it passes over the *Vastus internus*, and about the middle of the *Os Femoris*, over part of the *Triceps*, between the tendon of which and the *Musculus Gracilis* it descends farther.

Insertion.

Is inserted tendinous into the fore part of the *Tibia* internally, near its spine, at a little distance from the lower part of its appendix.

Use.

ITS use is to move the leg obliquely, or bring one leg and thigh cross the other.

In a dog it arises fleshy from the Costa near the spine internally, and ends near the

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The muscles of the Leg.

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upper part of the inside of the ridge that's in the middle of the Tibia.

RECTUS †

ARISES fleshy from a tubercle in the Origin.
lower part of the anterior spine of the Ilium, and tendinous from the Costa Ilii, a little above the Acetabulum.

Is inserted tendinous into the upper Insertion.
part of the Os Patellæ.

Its use is to extend the leg. Use.

In a dog it arises tendinous and fleshy from the lower part of the Costa Ossis Ilii, and forming a large round fleshy body descends, as in men.

VASTUS EXTERNUS

ARISES broad, tendinous, and fleshy Origin.
from the great Trochanter and upper part of the Linea aspera.

Is inserted into the head of the Pa- Insertion.
tella laterally.

N.B. Its origination is continued from near the insertion of the Glutæus minimus obliquely outwards over the great Trochanter to the Linea aspera; or rather,

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ther,

† Le Droit, ou Gresse anterieur. Winsl.

The muscles of the Leg.

ther, this muscle has a second origination from all that rough line, by fleshy fibres, which run obliquely forwards to a middle tendon, where they terminate.

Use.

ITS use is to extend the leg.

VASTUS INTERNUS

Origin.

ARISES tendinous and fleshy from between the fore part of the Os Femoris and the little Trochanter, and from almost all the inside of the Linea aspera, with fibres running obliquely forwards and downwards.

Insertion.

Is inserted tendinous into the inside of the Patella, continuing fleshy lower down than the last; and from its inserting tendon there runs off an Aponeurosis to the muscles below the head of the Tibia.

Use.

ITS use is to extend the leg in bringing it upwards.

N. B. FROM the lower point of the Patella there goes a strong, thick ligament, which is affixed to a Tubercle on the fore and upper part of the Tibia; by virtue of which, the extension of the leg

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The muscles of the Leg.

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leg is as easily performed as if the tendons of the extending muscles were inserted there.

In a dog the Vastus internus arises from the neck of the Femur internally.

CRURÆUS

ARISES fleshy from between the two Origin. Trochanters of the Femur. It firmly adheres to most of the fore part of the Os Femoris, and

Is inserted tendinous into the Patella, Insertion. under the Rectus.

ITS use is to assist in the extension of Use. the leg or Tibia.

A dog has a fifth Extensor; which, because it must be demonstrated, first I call Extensor Tibiæ primus Cani proprius. It arises from the spine and half the Costa of the Ilium: in its descent it adheres to the Sartorius by a membrane, and terminates into the Patella.

GRACILIS †

ARISES by a thin and broad tendon Origin. from the Os Pubis, near its commissure;
it

† Le Gresse interne, ou Droit interne. Winsl.

The muscles of the Leg.

it soon grows fleshy, and descending by the inside of the thigh,

Insertion. Is inserted tendinous into the inside of the Tibia near the Sartorius.

Use. ITS use is to bend the thigh and leg inwards.

In a dog it arises by a small tendon from the tuberosity of the Ischium, which ascends obliquely to the lower and fore part of the Os Pubis, where going a little cross in a straight line, it meets with that of its fellow on the other side, whereby the two muscles become united. Near its termination it sends off a tendon that runs down upon the Tibia, and also a broad membranous expansion, which uniting with that of the Biceps and Membranosus, is continued all over the leg and foot.

SEMINERVOSUS †

Origin. ARISES fleshy, in common with the longest head of the Biceps, from the back part of the protuberance of the Ischium.

Insertion. Is inserted by a flat tendon at the inside of the ridge of the Tibia, about an inch

† Semitendinosus. Albin.

The muscles of the Leg.

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inch below the termination of the ligament that comes from the Patella. From its tendon, about the head of the Tibia, there goes off a tendinous expansion continued down over the muscles on the inside of the leg.

ITS use is to bend the leg backwards, Use. and bring it a little inwards.

SEMIMEMBRANOSUS

ARISES tendinous from the upper Origin. part of the tuberosity of the Ischium. In its descent it runs under the head of the Biceps, between which and the former muscle it runs down the back side of the thigh.

Is inserted tendinous into the superior Insertion. and back part of the head of the Tibia, where some part of its tendon is mixed with a ligament that comes from the Tibia, and ends in both condyles; or perhaps the ligament springs from the latter, and ends in the former.

ITS use is to bend the leg, by bring- Use. ing it directly backwards.

BICEPS

The muscles of the Leg.

BICEPS.

Origin.

THIS muscle has two beginnings; its superior head arises tendinous and fleshy in common with the Semitendinosus, from the tuberosity of the Ischium; the inferior arises from the Linea aspera, a little below the termination of the Glutæus major, by a fleshy acute beginning, which soon grows broader as it descends to join in with the other.

Insertion.

Is inserted tendinous into the upper part of the head of the Fibula, part of its tendon reaching to the head of the Tibia next to it.

N. B. NEAR its insertion it parts with a tendinous expansion, which covers the muscles lying on the outside of the leg.

Use.

ITS use is to bend the leg.

In a dog the thickest and largest beginning of this muscle arises partly from the knob of the Ischium, and partly from a ligament that goes from the Os sacrum to the aforesaid protuberance. In its descent it spreads itself into
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The muscles of the Leg.

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a broad and fleshy belly, which covers part of the Gastrocnæmius. The other head, which is very small, round, and fleshy, arises by a long and small tendon from the same ligament. These two join and unite about the ham; a little lower they grow tendinous, and are so inserted into the upper and fore part of the ridge of the Os Tibiæ. This muscle sends off a very broad and tendinous expansion, which covers all the muscles on the outside of the leg, firmly adhering to the middle of the fore part of the Os Tibiæ in its descent to the foot: the posterior part of this Fascia is formed into a distinct tendon, which joining in with the Chorda magna, ends in the Os Calcis.

POPLITÆUS

ARISES by a round tendon from the ^{Origin,} edge of a cavity in the lower part of the external condyle of the Femur backwards; then running under the ligament that involves the joint, and strictly adhering to part of the Cartilago lunata, it becomes fleshy as it perforates the the liga ment, and joins in with another fleshy beginning proceeding from the same membrane.

Is

The muscles of the Foot.

Insertion. Is inserted into the superior part of the Tibia internally.

Use. Its use is to move the leg obliquely outward, and assist in bending the same.

C H A P. XLII.

Of the muscles of the Foot.

THE foot, or Tarsus, is moved by six muscles.

**EXTENSOR TARSII SURALIS, vel
EXTENSOR MAGNUS**

Is made up of four heads or beginnings; the two outermost form the muscle, commonly called *Gastrocnæmius externus* and *Gemellus*.

Origin. ONE of them arises from the back part of the internal condyle of the Femur, and from the bone itself, a little above it, by two thick and short tendons. The other head arises tendinous from a little knob on the outer condyle, just above the beginning of *Poplitæus*,
but

but soon turns fleshy. A little below the joint their carnous bellies unite in a middle tendon; and below the middle of the Tibia it ceases to be fleshy.

THE two innermost are known by Origin. the names of *Gastrocnæmius internus* and *Solæus*: one head comes from the upper and back part of the appendix of the Fibula, continuing to derive some of its fleshy *Fibrillæ* from the posterior edge of that bone, for some space below the meeting of the tendons. The other head springs from the back part of the Tibia, about the middle of the fleshy part of the *Poplitæus*, and from thence it is continued down the edge of the bone as low as the other.

THE tendons of these four heads join, and make one great tendon, called *Chorda magna*, and *Tendo Achillis*.

Is inserted into the superior and hindermost part of the *Os Calcis*, which projecting beyond the *Os Tibiæ*, occasions a considerable distance between the tendon and that bone. The middle and upper part of these two inferior
S heads,

Insertion.

The muscles of the Foot.

heads, between the bones whence they spring, is adorned with a tendinous edge, in form of an arch, under which all the great vessels, &c. of the leg pass.

Use.

ITS use is to extend the foot, in bringing it backwards and downwards.

This great Extensor in a dog has but two beginnings, and those tendinous and fleshy from the two Ossa sesamoidæa, that adhere to the two Condyles of the Femur, and fleshy from the lower part of the same bone.

EXTENSOR TARSII MINOR, vulgò
PLANTARIS †

Origin.

ARISES narrow, thin and fleshy from the upper and back part of the external protuberance of the Os Femoris, adhering to the membrane that involves the joint in its descent. It soon becomes a long, slender, thin tendon, which emerging from between the fleshy bellies of the Extensor magnus, marches by the inside of its great tendon, and

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† Le Iambier Gresse. Winsl.

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The muscles of the Foot.

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Is inserted at the extremity of the Insertion.
Os Calcis, below the Chorda magna,
and sometimes also it ends into the same
bone by two tendons laterally.

Its use is to assist the former in the Use.
extension of the foot.

*In a dog the fleshy belly of this muscle
arises in common with the Flexor Digitorum
communis, to which it adheres inseparably a
good way down; its tendon is very distinct,
and ends in the Os Calcis.*

N. B. THE tendinous Aponeurosis,
expanded over the muscles in the bot-
tom or sole of the foot, immediately
under the fat, arises by two narrow
beginnings from the inferior and poste-
rior part of the Os Calcis, hard by the
origin of the Musculus sublimis. The
largest adheres firmly to the fleshy part
of that muscle, its membranous edge
being spread upon the adjacent Ab-
ductor Pollicis, and is tacked down be-
tween these two muscles to the bones.
It splits into four tendons, each of them
being soon after subdivided into two,
between which the Flexores Digitorum

The muscles of the Foot.

pass. Is inserted into both sides of that cartilaginous body that covers the first joint of the toes. The other beginning of this *Expansio tendinosa* comes from the same bone, but more externally, and going forwards covers one half of the *Abductor minimi Digiti*, being joined to the former by a thin tendon. Is inserted partly into the upper part of the *Os Metatarsi minimi Digiti*, and partly by a long tendon into the extremity of the *Os Metatarsi*, near its articulation with the third toe. Its use is to preserve the subjacent parts from being compressed in standing, walking, &c. as also to assist the flexion of the first joint of the toes, by pulling that cartilaginous body downwards.

TIBIALIS ANTICUS

Origin.

ARISES tendinous and fleshy from the middle of the upper appendage of the *Tibia* externally; laterally it runs down upon the outside of the *Tibia*, receiving a fleshy disgregated origination from that bone, near the membrane

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The muscles of the Foot.

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brane that connects it to the Fibula, as also from the membrane itself. It passes under an annular ligament about the lower part of the Tibia.

Is inserted by a very large tendon *Insertion.* into the inside of the Os cuneiforme majus, next the metatarsal bone of the great toe, and by a small one into the upper part of the last named bone laterally.

Its use is to bend the foot, by drawing it upwards. *Use.*

In a dog it arises fleshy from the upper and fore part of the Tibia, filling up all that cavity that's between the Extensor Digitorum Pedis communis, and a thin bony protuberance or ridge, observable about the upper part of this bone, to which, in its descent, it firmly adheres. A little below its imbanding ligament it parts with a small tendon, that runs upon all the joints of the Pollex Pedis, or great toe, which it serves to extend.

TIBIALIS POSTICUS

ARISES by a narrow fleshy beginning *Origin.* from the fore part of the Os Tibiæ, just

S 3

under

under its appendix next the Fibula; thence passing through a perforation in the upper part of the ligament that connects the two bones, it continues its origin from the back part of the last named bone internally, and from near one half of the upper part of the Tibia, as also from the membranous ligament between them:

Insertion. Is inserted, having passed through the Fissure at the inner ankle, tendinous into the upper part of the Os naviculare internally laterally, being farther continued to the side of the Os cuneiforme medium; besides, it gives some tendinous fibres to the Os Calcis, and to the Flexor Pollicis brevis.

Use. Its use is to bring the foot inwards.

In a dog this is but a very small muscle, arising fleshy from the back part of the Fibula and Tibia, between the Flexor Digitorum profundus, and the Subpoplitæus; it turns into a long slender tendon about the middle of the last named bone; and then it unites with that of the fore mentioned Flexor, a little before it divides in its passage to the toes.

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PERONÆUS PRIMUS, seu POSTICUS, †

ARISES tendineo-carnous from the Origin.
fore part of the head of the Perone,
and soon grows into a pretty round
fleshy belly, made up of straight and
compacted fibres; it has also another
beginning, by a great many thin and
fleshy fibres, from the upper and ex-
ternal part of the Fibula, where it be-
gins to rise into a round edge, as also
from the hollownes between that and
its anterior ridge. It passes its long
tendon thro' the channel at the outer
ankle, together with the following;
then, being reflected into the sinuosity
of the Calcaneum, it runs along the
cavity, made in the Os cuboides, un-
der the muscles in the soal of the foot.

Is inserted in the outside of the supe- Insertion.
rior part of the Os Metatarfi that supports
the great toe, and by some tendinous
fibres into one of the Ossa cuneiformia
next it.

N. B. THE

† Peronæus longus. Albin. & Winsl.

The muscles of the Foot.

N. B. The cartilaginous bone in the tendon of this muscle, first (I think) taken notice of by Vesalius, I have observed to be hollowed or sinuated, for the better reception of a little protuberance in the edge of the Os cuboides, upon which it plays, as on a pulley.

Use.

Its use is to move the foot outwards, and also to bend it a little.

In a dog it arises fleshy, and a little tendinous from the outside of the Perone, just where it begins to adhere closely to the Tibia, from some part of which it also continues a carnosus origin; ends in the Os Metatarsi that sustains the fore toe.

Origin.

PERONÆUS SECUNDUS, seu ANTICUS, ||

ARISES by an acute fleshy beginning from above the middle of the external part of the Fibula; it has another carnosus origination from the outer side of the anterior spine of this bone, as also from its round edge externally backwards. Its tendon passes through the fissure

| Peronæus brevis. Albin.

Le moyen Peronier. Winsl.

fissure of the external ankle, being there included under the same ligament with that of the preceding muscle, and a little farther it runs under a particular one of its own.

Is inserted into the upper and fore part of the Os Metatarfi, that supports the little toe by several tendinous filaments, one or two of which are carried straight down, and join in with the tendon that extends that toe.

Its use is to pull the foot and toes outwards.

In a dog it arises from a protuberance in the head of the Tibia laterally, next the Perone, from the upper part of which it arises also, and then proceeds as in man.

C H A P. XLIII.

Of the muscles common to the four
lesser TOES.

THE muscles of the toes are either common to all the four lesser toes, or they are proper and peculiar to the great and little toe, or common to both these.

THE common to all the four lesser are fifteen in number, to wit, two Flexors, two Extensors, four Lumbricales, and seven Interossei.

EXTENSOR LONGUS

Origin: ARISES by a narrow, tendinous, and fleshy beginning from the superior and external part of the head of the Tibia, next the Fibula, and by a fleshy origin from the upper part of the last named bone; dividing into four tendons, and passing under the Ligamentum anulare

Insertion. Is inserted, together with the following into the upper part of the second bone

The
bone of
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The muscles of the four lesser Toes. 203

bone of each small toe, sending off on both sides a small tendon † to the last bone of the toes, which unites with its fellow a little before its termination.

ITS use is to extend all the joints of the four little toes.

N. B. VESALIUS's ninth muscle || of the foot seems to be very distinct from this Extensor, arising from about the middle of the spine of the Fibula, to which the membrane that ties it to the Tibia is connected, by a great many fleshy fibres which run obliquely downward to their tendon, not unlike the Stamina of a feather. It terminates, being often divided in two or three tendons in the upper part of the Os Metatarfi of the little toe.

This muscle is not to be found in a dog.

In a dog the Extensor Longus springs by a round tendon from the fore part of the external

† N. B. Our author, in his Appendix, says, "I am now inclined to believe these small tendons proceed from the Interossei."

|| Peronæus tertius. Albin.

Le petit Peronier. Winsl.

The muscles of the four lesser Toes.

nal Apophysis of the Femur, near the channel of the Patella, and descending through a Sinus in the head of the Tibia, it grows fleshy, and then marching down the same bone, and passing under the ligament that binds it in near its extremity, it splits into four tendons, which are inserted into the upper part of the last bone of every toe, near the setting on of the claws, firmly adhering to the Ossa sesamoidæa of the joints, as it passes over them.

N. B. Here, as well as in the fore foot, are observable two springy ligaments that keep the last bone of every toe in an erect or suspended posture, for the conveniency of walking, and for saving of this muscle from being always in action. But more of this in my Comparative Osteology.

EXTENSOR BREVIS

Origin.

ARISES fleshy and a little tendinous from the fore part of the Os Calcis externally, near its conjunction with the Cuboides, and dilating itself into a fleshy belly, easily divisible into four portions, passes over the upper part of the foot under the tendons of the former.

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The muscles of the four lesser Toes. 205

Is inserted by four tendons into the Insertion.
second bone of the toes.

THEY serve to extend the toes. Use.

In a dog it seems to be two distinct muscles, of which one arises tendinous, the other fleshy, from the upper and fore part of the Os Calcis, where it joins the Astragalus externally. The innermost, soon growing fleshy, makes but one tendon, which runs to that toe next the great one; and about the middle of the first joint, it loses itself in the tendon of the Longus: the outermost gives tendons to the rest of the toes.

PERFORATUS, seu FLEXOR SUBLIMIS,

ARISES by a narrow fleshy beginning Origina: from the lower protuberating part of the Os Calcis, between the Abductors of the great and little toe; but descending, soon dilates into a thick fleshy belly.

Is inserted by four tendons, which Insertion. split, unite, decussate, subdivide, and run close, by the edges of the bones, like those of the fingers, into the second Phalanx of the four lesser or outermost toes.

T

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Use.

Its use is to bend the second joint.

In a dog it ariseth fleshy from the back part of the external protuberance or condyle of the Os Femoris, and a little tendinous from the Os sesamoidæum, that has a loose connection with the same. Its fleshy belly lies under the Gastrocnæmius, or Extensor suralis, from whose external head it can scarcely be separated; but as soon as it grows tendinous, it climbs along the tendon of that muscle down to the Os Calcis, which it passes over, and then splits into four thin tendons, which form a sort of case, with a little hole on its outside, for the transmission of the tendons of the following. About the middle of the first Internode the half of this Involucrum is discontinued, and the tendon is inserted broad without any division into the beginning of the second joint.

N. B. In the middle of this tendon, as it runs over the end of the Calcaneum, nature has wisely placed a little hard cartilaginous body, which not only prevents that part of the tendon from being injured by the sharp extremity of the bone, but also strengthens the action of the muscle itself; and so, like a
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The muscles of the four lesser Toes. 207

rouler or Patella, renders its motion more easy and glib in running.

PERFORANS, seu FLEXOR PROFUNDUS,

ARISES by an acute tendon, which Origin. soon becomes fleshy from the back part of the Tibia, about two or three inches from its head, above the termination of the Poplitæus; which beginning is continued down the inner edge of this bone by short fleshy fibres, ending in its large tendon. Its other origination is by a thin and disgregated tendon from the edge of the Fibula, interspersed with abundance of carnous Fibrillæ: betwixt this double order of fibres the Tibialis posticus lies inclosed. Having passed under two imbanding ligaments, it marches through the sinuosity of the Os Calcis, and about the middle of the sole of the foot divides into four tendons, which passing through the slits of the Perforatus are

INSERTED into the upper part of the Insertion; last bone of all the lesser toes.

The muscles of the four lesser Toes.

N. B. IT parts with a small tendon just before its division, which running forwards communicates with that of the Flexor Pollicis longus.

Use.

ITS use is to bend the toes.

N. B. THE Massa carnea, or Musculosa Carnis Portio, Ja. Silv. In the sole of the foot, may well be reckoned a third head or beginning of this muscle; for it arises by a thin fleshy origin from most part of the sinuosity of the Calcaneum, which is continued forward for some space on the same bone: besides, it has a thin tendinous beginning from the fore part of the lower protuberance of this Os Calcis, and soon becoming all carnous it joins in, sloping with the tendon of this Flexor, just at its division into four tendons. This Moles carnea is wanting in a dog.

In a dog this muscle arises fleshy from all the upper half of the Fibula, that stands off at a distance from the Tibia, filling up most of the space between them. It splits into five tendons; one runs to the great toe, which in this animal is less than any of the four; the

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The muscles of the four lesser Toes. 209

the rest pass through so many cases, made by the tendons of the Sublimis, to their insertions at the third bone of each toe.

N. B. I KEEP by me the muscles of a Foetus prepared, in which I observed a small fleshy muscle to arise from the Os perone, near its extremity between the Flexor Pollicis longus, and the Peronæus brevis: this, in the sinuosity of the Calcaneum, grows tendinous, and adhering strictly to the Massa carnea in its progress forwards, joins in with the tendon of the Perforans that belongs to the toe next the great one.

LUMBRICALES

THEY all arise from the tendons of Origin. the Perforans at some distance from the union of the Massa carnea, with the single tendon of that muscle; are

INSERTED by four small tendons into Insertion. the inside of the first joint of the lesser toes, next the great toe.

THEIR use is to assist in bending the Use. toes.

T 3

INTEROSSEI

210 The muscles of the four lesser Toes:

INTEROSSEI

Origin. THE seven interosseous muscles have the same situation with those in the hand; but differ in their origin, insertion, || and use.

Origin. THE first, or Abductor Indicis Pedis Cowp. arises from all the outside and fore part of the metatarsal bone of the toe next the great one.

Origin. THE second, or Adductor ejusd. fills up all the distance between this and the Os Metatarsi of the middle toe, from the sides of both which it arises.

Origin. THE third, or Adductor medii Digiti ejusd. belongs to the side of the second lesser toe next the first, and is only conspicuous internally, arising from all the fore part of this metatarsal bone, and by a few fibres from the upper part of the first also.

THE

|| N. B. Our author, in his appendix, says,
 “ Upon a stricter enquiry I have observed
 “ that the Interossei Digitorum Pedis do really
 “ all terminate as they do in the fingers.”

The muscles of the four lesser Toes. 211

THE fourth, or *Abductor medii Digiti ejusd.* which runs along the first joint of this toe, on the other side, arises externally from the metatarsal bone of this, and of that which supports the third toe, filling up all the space between them

THE fifth, or *Abductor tertii Digiti ejusd.* arises from the upper part of the metatarsal bone, that stays the third toe, and also from the tendon of the *Musculus Peronæus longus.*

THE sixth, which belongs to the other side of this third lesser toe, arises from the sides of this metatarsal bone; and from that which supports the little toe, filling up all the space between these on the back side of the foot. It has also a tendinous adhesion to the long *Peronæan* muscle.

THE seventh, or *Adductor minimi Digiti ejusdem,* arises from the upper part, or the *Os Metatarsi minimi Digiti,* being also affixed to the aforesaid tendon.

THEY

212 The muscles of the four lesser Toes.

Insertion. THEY are all inserted partly into the *Ossa sesamoidæa*, placed on the articulation of the first bone of the toes, with the *Ossa Metatarsi*, and partly on the side of the same bone.

Use. THEIR use is to move the four lesser toes laterally; for when the *Interni* act, the toes are drawn inwards towards the great toe, and when the *Externi* act, they are pulled nearer the little one, or are all drawn outwards from the great one.

N. B. ALL the muscles that I said arise from the tendon of the *Musculus peronæus*, arise rather from the membrane that covers this tendon, and incloses it in the *Sulcus* of the *Os cuboides*.

The four straight and two oblique muscles, situate in the hollow of a dog's hind foot, run altogether conform to those already described in his fore foot.

CHAP.

C H A P. XLIV.

Of the muscles of the GREAT TOE.

THE Pollex Digitorum Pedis, or great toe, has six muscles.

EXTENSOR LONGUS †

ARISES by an acute, tendinous, and Origin. fleshy beginning, from near the upper part of the Fibula, and from the membrane that connects it to the Tibia.

Is inserted tendinous into the upper Insertion. part of the last bone of the great toe.

Its use is to extend that joint by pull- Use. ing it upwards.

EXTENSOR BREVIS Cowp. ‡

ARISES tendinous and fleshy from Origin. the fore part of the Os Calcis, near its articulation with the Astragalus.

Is

† Extensor proprius Pollicis Pedis. Albin.

‡ Winslow and Albinus do not separate this muscle from the Extensor brevis communis Digitorum.

The muscles of the great Toe.

Insertion.

Is inserted tendinous near the upper part of the second bone of the great toe.

Use.

Its use is to extend this Internode.

The Pollex Pedis in a dog being armed with a claw much more hooked than any of the other four toes, is joined to one of the bones of the Tarsus near the upper part of the Os Metatarsi, that answers the fore toe; whence the hind foot of this animal does more resemble the hand of a man than his fore foot does.

This part is extended by two muscles, one proper, which arises fleshy from the Fibula and membrane that connects it into the Tibia: its small belly soon turns into a fine tendon, which adhering to that of the Tibialis anticus, runs on to the last joint of this toe, where it ends.

The other is a tendon cast off from the Tibialis anticus already described.

FLEXOR LONGUS

Origin.

ARISES by a sharp, tendinous and fleshy beginning from the upper and back part of the Fibula, being continued

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The muscles of the great Toe.

215

nued down the same bone almost to its extremity, passing its tendon under a ligament at the inner ankle.

Is inserted into the last bone of the great toe, giving a tendon to the Os Calcis in its way. Insertion.

Its use is to bend this joint. Use.

FLEXOR BREVIS

ARISES tendinous from the Os cuboide and Os Cuneiforme that jets out in the bottom of the foot, it being inseparably united both with the Adductor and Abductor Pollicis. Origin.

Is inserted into the external Os sesamoidæum of the great toe adhering to the Adductor. Insertion.

Its use is to bend this second joint. Use.

In a dog this range of bones is bended by a slip cast off from the Flexor profundus.

ADDUCTOR

ARISES by a long, thin, disgregated tendon, from the Os Calcis, under the tendinous part of the Massa carnea, from the Os Cuboides, from the Os Cuneiforme Origin.

The muscles of the great Toe.

neiforme medium, near the insertion of the Peronæus primus, and from the upper part of the Os Metatarsi of the second toe: it's soon dilated into a pretty large belly.

Insertion. Is inserted into the external Os sesamoidæum of the great toe.

Use. Its use is to bring this toe nearer the rest.

ABDUCTOR

Origin. ARISES fleshy from the inside of the lower protuberance of the Os Calcis laterally, and tendinous from a little tubercle in the same bone, near the Os cymbiforme. It only adheres to the other bones on the inside of the foot, filling up the hollownes in the Os Metatarsi Pollicis.

Insertion. Is inserted into the internal Os sesamoidæum of the first bone of the great toe, its tendons being farther continued upon the same bone laterally.

Use Its use is to pull the great toe from the rest.

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The muscles of the little Toe.

217

N. B. It has very often a tendinous origin from the edge of the Os cymbiforme, receiving near this bone some tendinous filaments from the Tibialis anticus.

In a dog these two last described muscles are never found.

C H A P. XLIV.

Of the muscles of the little Toe.

THE little toe has two muscles.

ABDUCTOR †

ARISES fleshy and tendinous from Origin: the semicircular edge of a cavity on the outside of the inferior protuberance of the Os Calcis; it has another tendinous beginning from the Os cuboides, and a third from the upper part of the Os Metatarsi minimi Digiti.

U

Is

† N. B. Winslow divides this muscle into two, viz. Le grand Parathenar, & le Metatarsien.

The muscles of the little Toe.

Insertion. Is inserted into the upper part of the the first bone of the little toe externally laterally.

Use. Its use is to draw the little toe outwards from that next to it.

FLEXOR PRIMI INTERNODII MINIMI
DIGITI Cowper. †

Origin. ARISES fleshy from all the outside of the metatarsal bone that sustains this toe, below its protuberating part; besides, it has another beginning from the tendon of the Peronæus primus, as it runs in the Sulcus or furrow of the Cuboides.

Insertion. Is inserted into the cartilage that's placed upon the articulation of the first joint of this toe.

Use. Its use is to bend this joint.

In a dog these two are wanting.

† Flexor brevis minimi Digiti. Albin.
Le petit Parathenar. Winsl.

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C H A P. XLV.

Of the muscle common to the great
and little Toe.

TRANSVERSALIS PEDIS Jul. Cass.
Placent. †

ARISES tendinous from the exter- Origin.
nal Os sesamoidæum of the great
toe, firmly adhering to the tendinous
part of the Adductor Pollicis, soon
growing fleshy, it passes over the extre-
mity of two of the metacarpal bones,
between them and the Flexores Digito-
rum; and then growing broader,

Is inserted partly into a tendon that *Insertion,*
proceeds from the Expansio tendinosa,
in the sole of the foot, and partly into
that cartilaginous ligament that covers
the articulation of the first joint of the
third lesser toe with its Os Metatarsi,
some of its fleshy fibres being continued
upon the same part of the little toe.

U 2

Its

† Le transversal des Orteils. Winsl.

220 The Præputium and Urethra in a Dog.

Use.

ITS use is to bring the third and fourth lesser toes nearer the other two and the great one.

In a dog there is no such muscle.

To compleat the Canine Myology, there remain yet to be described the muscles of the Præputium and Urethra.

The Præputium, which in a man has no muscles, is provided with one pair, and a single one in a dog. The first I call

Præputium adducens, which proceeds from the Membrana carnosæ, near the Cartilago ensiformis, as it descends on each side the Linea alba, it grows thicker and narrower, and is inserted into the Præputium laterally. When this acts, I believe, it serves to bring the Præputium over the glans after copulation, (tho' Blasius affirms, that it draws the Penis forwards, tempore coitus) being therein much assisted by the contraction of two ligaments which come from about the middle of the Linea alba, and end in the Præputium. The second is

Præputium Abducens, or Retrahens, which is a single small muscle arising from
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The Præputium and Urethra in a Dog. 221

the *Sphincter Ani*, and firmly adhering to the *Accelerator Urinæ*, from which it receives two fleshy slips as before noted, runs up along the Urethra, and terminates in the lower part of the *Præputium*, where its dilated fibres are expanded all over it. Its use is to draw back the *Præputium*, and so help to denude or uncover the glans, in order to coition. It may likewise serve, in some measure, to dilate and keep open the Urethra at that time, lest the seed should meet with any impediment or lett in this very long passage.

That part of the Urethra between the Prostates and the union of the two *Corpora cavernosa*, being two or three inches in length, according to the bigness of the animal, is surrounded by a thin fleshy muscle, contrived and placed there on purpose for to compress the many glands that open within this passage, and so oblige them to discharge their contents, which serve as a *Vehiculum* to forward the descending *Semen tempore coitus*; to which also the contraction of its fleshy fibres, in narrowing this canal, contributes in a great measure, as Mr. Cowper has well observed, in boars, and in bulls.

A N

A P P E N D I X

Concerning the Muscles of the
CLITORIS and VAGINA in a
Woman.

THE Clitoris is furnished with two
pair of muscles.

Origin. THE first, † discovered by Fallopius,
ARISES tendinous and fleshy from the
Os Iſchion internally, near its conjunc-
tion with the Pubis : in its ascent it ad-
heres to the inner edge of the last named
bone, and

Infertion. Is inserted fleshy into the Crus, or be-
ginning of the Clitoris.

THIS muscle, with its partner, serve
for the erection of this part, by detain-
ing the blood in its cavernous sub-
stance.

Uſe. THE second ¶ muscle belonging to the
Clitoris, is by De Graaf very improperly
called

† Erector Clitoridis. Albin.

¶ Constrictor Cunnì. Albin.

The muscles of the Clitoris, &c.

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called Sphincter Vaginæ, since it does not surround that part with circular fibres, tho' it has the same effect as if it did.

It arises fleshy, partly from the Origin. Sphincter Ani, and partly from a white hardish substance placed under the skin in the Perinæum, between the lower part of the Pudendum and the Anus; from thence it climbs up the side of the Vagina, near its outer orifice, covering all the Corpus Vaginæ Vasculospongiosum, which is nothing but a production of the Clitoris, and

Is inserted into the body or union of Insertion. the Crura Clitoridis laterally.

Its use is the same with the preced- Use. ing muscle; and besides, by compressing the Corpus spongiosum, or Plexus retiformis, it serves to straiten the orifice of the Vagina by hindering the blood in its return from thence.

THE Vagina Uteri is furnished with two pair of muscles, not mentioned by any author, as far as I know.

THE

The muscles of the Clitoris.

Origin.

THE first arises from the inner edge of the Os Pubis, midway between the Ischion and the beginning of the Crus Clitoridis; it ascends a little obliquely, and

Insertion.

Is inserted into the Vagina.

Use.

ITS use is to dilate the sheath, and open the extremity of the Meatus urinaris; its termination being very nigh the orifice of that passage.

Origin.

THE second arises tendinous and fleshy from the Os Pubis internally, in common with the Levator Ani.

Insertion.

Is inserted into the upper part of the Vagina, at the side of the Meatus urinaris, or Collum Vesicæ.

Use.

THIS acting pulls up the Vagina, and so constricts the neck of the bladder after the evacuation of urine.

N. B. THESE muscles can never be well raised, unless the Os Pubis be taken off from the Ilium and Ischion, with the Intestinum rectum, the Vagina and Vesica urinaria left adhering to it.

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A LIST of the MUSCLES found in a
Human Body, that are not met
with in a Dog.

PYRAMIDALIS Abdominis

Musculus Frontalis verus

—— *Nasi proprius, seu Rinæus*

Elevator Labiorum communis

Depressor —————

Stylo-chondro hyoidæus

Coraco hyoidæus

Salpingo-staphilinus

Thyreos-staphilinus

Subclavius

Levator Ani externus

Serrator minor anticus

Palmaris longus

—— *brevis*

One of the Extensores Carpi Radialis

Extensor tertii Internodii Indicis

Adductor Indicis

*All the muscles of the Thumb, except one Flexor and
one Extensor*

All

226 The muscles peculiar to a Dog.

All the muscles of the Little-Finger, except the Extensor

Supinator longus

Coccygæus

Tendinifosa Expansio in Planta Pedis

Par novum Pedis Vesalii

Massa carnea in Planta Pedis

All the muscles of the Great-Toe, except one Extensor

Abductor minimi Digiti

Flexor primi Internodii minimi Digiti

A LIST

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Muscul

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Muscul

A LIST of the MUSCLES peculiar
to a Dog.

T RANSVERSALIS Penis	12
<i>Musculus Oculi suspensorius</i>	21
——— <i>Trochleæ proprius</i>	22
Several muscles of the Auricle	32
<i>Chondro-cerato hyoidæus</i>	41
<i>Inio-cerato hyoidæus</i>	42
<i>Musculus Epiglottidis, seu Hyoglottis</i>	50
<i>Tympano-petroso-salpingo-pterigo-palatinus</i>	62
<i>Musculus in summo Thorace situs</i>	80
<i>Levator Scapulæ minor</i>	93
<i>Panniculus carnosus</i>	126
<i>Levator Humeri proprius</i>	129
<i>Musculus ad Levatorem accessorius</i>	ibid.
<i>Extensor Cubiti quintus</i>	136
<i>A second Flexor Carpi Ulnaris</i>	141
<i>Musculus parvus in articulatione Femoris situs</i>	179
<i>Musculi Caudæ</i>	181
<i>Extensor Tibiæ quintus</i>	187
<i>Præputium Adducens</i>	220
——— <i>Abducens</i>	ibid.
<i>Musculus Urethræ</i>	221

AN
ETYMOLOGICAL TABLE
OF THE
MUSCLES.

The MUSCLES take their Names,

I.

From their ACTION, or USE.

ABDUCTOR, from abducere, to move or draw from.

Accelerator, from accelerare, to hasten or dispatch.

Adductor, from adducere, to move or bring towards.

Annuens, from annuere, to nod the head forwards, as when we give our assent to any thing.

Attolens, from attollere, to lift or raise up.

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Caput
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An etymological Table, &c. 229

Caput concutiens, from concutere, to shake.

Constrictor, from constringere, to straiten or bind fast.

Cremaster, or Suspensorius, from *κρεμάω*, suspendo.

Depressor, from deprimere, to pull or draw down.

Detrusor Urinæ, from detrudere, to thrust or squeeze out of.

Diaphragma, from *διαφράττω*, intersepio, because it divides the cavity of the Thorax from that of the Abdomen.

Dilatator, from dilatare, to enlarge or widen.

Distortor Oris, from distorquere, to pull or set awry.

Extensor, from extendere, to extend or stretch out.

Flexor, from flectere, to bow or bend.

Indicator, from indicare, to shew or point, because that Finger is used in the Demonstration of any thing.

Levator, from levare, to lift or pull up.

Masseter, from *μασισάομαι*, manduco, comedo, to eat.

X

Pronator,

230 An etymological Table

Pronator, from pronus, which denotes the posture of lying with the face downwards; but the word is here taken for turning the palm only downwards.

Renuens, from renuere, to nod the head back, when we deny or refuse any thing.

Retrahens, from retrahere, to draw back.

Sartorius, from the use taylors make of it, to fit cross-legg'd.

Sphincter, from σφιγγω, constringo, to shut.

Supinator, from supinus, which denotes that posture of lying upon the back, with the belly upwards; but in this case it's taken for turning the palm only upwards.

Tensor, vide extensor.

II.

From their Beginning, or Origin.

Graphoides, or styliformis, from γραφίς, stylus, because of its supposed origination from the process of the temple-bone, so called. The Musculus digastricus was thus named by the ancients.

Pectinæus, vel pectinalis, from pecten, i. e. Os Pubis,

Pterigoidæus,

Pterigo
Ala,
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Lividu
blui

From

BICEPS
or b
Bicorn
mar
Compi
tenc
one

Pterigoidæus, or aliformis, from πτερυγίος, *pterygiós*,

Ala, a wing, and εἶδος, *eîdós*, Forma.

Sacer, from the Os sacrum.

Sacro-lumbalis, from the last named bone, and from the transverse processes of the loins.

Semifibulæus, from one half the Fibula.

Transversalis, from the transverse processes of the back and neck.

Zygomaticus, from the bone called Ζυγόμα, which is derived from ζυγός, *zygós*, vel ζεύγος, *zeugós*, Jugum, a yoke; Os jugale, the yoke-bone.

III.

From their Colour.

Lividus, i. e. pectinæus, from its black and bluish colour.

IV.

From their Composition and Variety of Parts.

BICEPS, from its having bina Capita, two heads or beginnings.

Bicornis, from its having two origins, like so many horns.

Complexus, from its being made up of many tendinous and fleshy fibres, intricately mixed one with another.

Complicatus is another name for the same muscle, having the same etymology.

Digastricus, or Biventer, from $\delta\acute{\iota}\varsigma$ & $\gamma\alpha\sigma\tau\acute{\eta}\rho$, because it has two fleshy bellies, with a tendon intervening.

Gemellus, from its having a double origin.

Gemini, from their being two distinct muscles, united only by a membrane.

Quadriceps, from its arising by four heads.

Triceps, from its arising by three heads.

V.

From their Course and Direction of their Fibres.

Obliquus.

Orbicularis,

Rectus.

Transversalis.

VI.

From their Figure or Shape.

Cucullaris, from the resemblance the lower part of this pair of muscles has to that part of a monk's hood that lies between his shoulders.

Deltoides, or Deltiformis, from $\delta\acute{\epsilon}\lambda\tau\alpha$, the fourth Greek letter, and $\epsilon\acute{\iota}\delta\omicron\varsigma$, forma.

Fascialis,

Fascial
of t

swat

Fascia
cles

Lumb
the

Marfu
on'

sup
con

Pyran
and

ran
be

Pyris
to

Quac
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Rhor
an

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eq

Rotu

Fascialis, i. e. Sartorius, from its crossing some of the muscles of the thigh and leg, like a swath-band or Fascia.

Fascia lata, from its inclosing most of the muscles that lie on the Os Femoris.

Lumbricalis, from the likeness of their shape to the common earth-worm.

Marsupialis, because the Gemini, by some reckon'd a part of this muscle, do form a Marsupium, or fleshy purse by their membranous connexion, through which its tendons pass.

Pyramidalis, because it arises by a broad basis, and terminates by a narrow point like a pyramid, or pyramidal figure, which is broad beneath, and sharp or narrow above.

Pyriformis, from the faint resemblance it bears to a pear.

Quadratus, from its square or quadrilateral figure.

Rhomboides, from $\rho\omicron\mu\beta\omicron\varsigma$, a diamond figure, and $\epsilon\iota\delta\omicron\varsigma$, Forma, i. e. a diamond-like figure, whose opposite sides and opposite angles are equal.

Rotundus, from its being round and spherical.

Scalenus, from the figure of a triangle, whose three sides are all unequal, called in Greek *σκαληνός*.

Serratus, from its being divided at its termination into several distinct fleshy portions, which are not unfitly compared to the teeth of a saw, called Serra in Latin.

Solæus, or Soleus, from Solea, a Sole-fish.

Splenius from Splenium, a Ferula, or rouled splint, which surgeons are wont to apply to the sides of a broken bone.

Teres, from it being long and round.

Trapezius, from *τράπεζα*, which denotes in Geometry a kind of quadrilateral figure; but properly it signifies Mensa, a table. Hence some call this the table muscle.

Triangularis, from Triangulum, which is a figure with three corners.

VII.

From their Infertion, or Termination.

Ciliaris, from Cilia, or the soft cartilaginous edges of the eye-lids, into which the Tharssi, or hairs, are fixed.

Mastoidæus, or Mastoides, i. e. Mammiformis, from *μάζος*, Uber, Mamma & *εἶδος*, Forma.

Semispinalis,

Semisp
the
Spinali

F
Basio-g
Os H
Cerato

γλῶ
Coraco

κορ
Form

Coraco
and

Crico-
ἀρῶ
crue

Crico-
δῆς,

Genio-

Genio-
des.

Gloss-

γα

Hyo-t
δυσ

Semispinalis, from half of the spinal processes of the back.

Spinalis, from several of the spines of the neck.

VIII.

From their Origin and Insertion.

Basio-glossus, from βάσις, the fore-bone of the Os Hyoides, and γλῶσσα, lingua, the tongue.

Cerato-glossus, from κέρας, αἶος, cornu & γλῶσσα.

Coraco-Brachialis, from the Processus, called κορακοειδής, from κόραξ, κός, Corvus & εἶδος, Forma and Brachium.

Coraco-Hyoidæus, from the last named process and the Os Hyoides.

Crico-Arytænoidæus, from κρίκος, annulus, and ἀρύταινα, Guttus, f. Gutturium, an ewer or cruet.

Crico-Thyreoidæus, as above, and from θυρεοειδής, i. e. scuti formis.

Genio-glossus, from γένειον, Mentum, the chin.

Genio-Hyoidæus, as above, and from Os Hyoides.

Glossio-Staphilinus, from γλῶσσα, lingua, and σταφυλή, Uva, Uvula, Gargareon.

Hyo-thyreoidæus, from the Os Hyoides, and θυρεοειδής, scutiformis.

Mylo-

Mylo-hyoidæus, from *μούλοι*, dentes molares.

Occipito-frontalis, from the Occiput and skin of the Os Frontis.

Palato-staphilinus, from the Os Palati and *φαρυγή*, Uvula.

Salpingo-staphilinus, from *σάλπιγξ*, *ιγγός*, Tuba.

Sterno-hyoidæus, from the Os Sterni or Pectoris.

Sterno-thyreoidæus, as above.

Stylo-chondro hyoidæus, from *σῦλος*, Stylus, i. e. Processus stiliformis, from *χόνδρος*, Cartilago, &c.

Stylo-glossus, from *σῦλος* & *γλῶσσα*.

Stylo-hyoidæus, as above.

Thyreο-artynedoiæus, from *θυρεός*, Scutum.

Thyreο-staphilinus, as above.

'Tis worth observing that the first word denotes always the origin, and the last the insertion of the muscle.

Trachelo-mastoidæus, from *τραίχηλος*, Collum, Cervix; its chief origin being from the Vertebra's of that part.

IX.

From the parts they belong to.

Coccygæus, from *κούκυξ*, Cucullus, i. e. Os Coccygis, a bone so called from its shape.

Oesophagus,

Oesoph
the g

Pharyn

Cephale

Chondr

Crico-p

Gloss-

Hyo-ce

Mylo-p

Pterigo

Salping

Stylo-p

Syndes

culu

Thyreο

Rinæus

Stapida

From

Buccin

part

Gastro

Calf

Ven

Glutau

Oesophagus, from οἰσοφάγος, Oesophagus, Gula, the gullet.

Pharyngæus, from φάρυγξ, Guttur, Fauces.

Cephalo-pharyngæus, from κεφαλή, Caput.

Chondro-pharyngæus, from χόνδρος, Cartilago.

Crico-pharyngæus, from κρίκος, Annulus.

Glossopharyngæus, from γλῶσσα, Lingua.

Hyo-cerato-pharyngæus, as above.

Mylo-pharyngæus, from μύλοι, Dentes molares.

Pterigo-pharyngæus, from πτέρυξ, Ala.

Salpingo-pharyngæus, from σάλπιγξ.

Stylo-pharyngæus, as above.

Syndesmo-pharyngæus, from συνδεσμός, Vinculum, Ligamentum.

Thyreo-pharyngæus, from θυρεός, Scutum.

Rinæus, from ῥίς, ῥινός, Nasus.

Stapidæus, from Stapes.

X.

From the Parts they constitute or compose.

Buccinator, because it makes up the greatest part of the cheek, called Bucca.

Gastrocnemius, from γαστροκνημία, Sura, the Calf of the leg, which comes from γαστήρ, Venter, & κνημή, Tibia.

Glutæus, from γλαίος Nates.

N. B. The

N. B. The Pharyngæus, with all its various orders of fibres, might have been described under this head as well as in the former.

Suralis, from Sura, the calf of the leg.

Θίαρ, seu Thenar; thus the Greeks call the rising and prominent fleshy part in the palm of the hand, which word seems to come from Σεῖρειν, percutere, vertebrare.

XI.

From their passing through some Parts:

Perforans, because its tendon passes through a slit or fissure in that of the Perforatus.

Trochlearis, from passing its tendon through a cartilage called Trochlea, a pulley.

XII.

From their Quantity or Magnitude, with respect to one another.

Brevis.

Gracilis, from its being the thinnest and slenderest muscle of the Tibia.

Latissimus, from its being the broadest and largest muscle that lies on the back or neck.

Longissimus, from its being the longest of those of the back.

Longus.

Longus
Magnus
Major.
Maximus
Medius
Minimus
Minor.
Parvus

The

Platysmus
musculus
vel

Dilatatus

Vastus.

bigg

Leg

Angon
but
the

Anticus

Antith

to t

tran

Brach

Longus.

Magnus.

Major.

Maximus.

Medius.

Minimus.

Minor.

Parvus.

These need no explication.

Platysma-myoides, i. e. Expansio vel Dilatatio muscularis, from *πλάτυσμα*, latum Linteum, vel aliquid simile; or from *πλάτυσμος*, Dilatatio, and *μῦς*, Musculus, & *εἶδος*, Forma.

Vastus, because it and its fellow are the two biggest and thickest muscles belonging to the Leg, or Tibia.

XIII.

From their Situation or Position.

Angonæus, vel Anconæus, from *ἄγκων*, Cubitus, but, in a strict sense, is taken for the process of the cubit, called the elbow.

Anticus, that which lies in the fore part.

Antithenar, from its situation, which is opposite to the Thenar, or from its use, which is contrary to it.

Brachiaëus, from *βραχίων*, Brachium.

Cruraëus,

Cruræus, from Crus, i. e. Femur.

Cubitalis, }
Cubitæus, } from Cubitus, i. e. Ulna.

Externus.

Fibulæus, from Fibula.

Hypothenar, because it's situate below the The-
nar.

Iliacus, from the Os Ilium.

Immerfus, from its being sunk as it were under
the rest of the muscles of the Scapula.

Infra-spinatus, below the Spina Scapulæ.

Intercoſtales, from their being placed inter Coſtas,
or between the ribs.

Internus.

Interoffeus, between the metacarpal and meta-
tarſal bones of the hand and foot.

Inter-spinales, between the ſpines of the neck.

Inter-transverſales, between the tranſverſe pro-
ceſſes of the neck or loins.

Inter-vertebrales, from their being placed upon
and between the bodies of ſome of the Ver-
tebræ of the neck.

Palmaris, from the ſpreading of its tendon upon
the palm of the hand.

Plantaris, from the ſuppoſed ſpreading of its
tendon upon the ſoal of the foot, under the
ſkin.

Pectoralis,

Pector

Perona

the

Poplita

Poſticu

ſide.

Pſoas,

Radial

Radia

Subcla

place

Subſca

Supra-

Temp

Tibiali

Tibia

Ulnari

Membr

like

Semim

bran

Semine

Semiter

Pectoralis, from the Os Pectoris.

Peronæus, from the Perone, *περόνη*, in Greek,
the smallest bone in the leg.

Poplitæus, from Poples, the ham.

Posticus, that is situate behind, or on the back
side.

Psoas, from *ψόα*, Lumbus, the loins.

Radialis, }
Radiæus, } from Radius.

Subclavius, from Clavicula, under which it's
placed.

Subscapularis, under the Scapula.

Supra-spinatus, above the spine of the Scapula.

Temporalis, from Tempora, the Temples.

Tibialis, }
Tibiæus, } from Tibia.

Ulnaris, from Ulna.

XIV.

From their Substance.

Membranofus, because of its broad membrane-
like tendon.

Semimembranofus, from its being half mem-
branous.

Seminervofus, }
Semitendinosus, } From its being half tendinous.

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 — *ext*
 — *Fe*
Brachialis
 —
Buccinator
 —
Capitis p
Cephalo-p
Cerato-g
Cervicali
Cbondro-
 —
Ciliaris,
Coccygæu
Complexu
Coraco-b
 — *by*
Corrugat
Costarum
 —
Cremaste
Crico-ar
 —
 — *ph*
 — *th*
Cruræus
Cucular

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Levator

——

——

*Lingua**Longiss**Longus**Lumbr*

——

*Marsup**Massete**Mastoic**Membr**Muscu*

——

Muscu

——

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——

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Mylo-h

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<i>Pronator</i>	

*Pronator**Psoas m**Psoas pa**Pterigoia**Pterigo-1**Pteri-sta**Pyramia**Pyriform**Quadra**Rectus A**—— C**—— C**——**——**——**——**Rbombo**Rinæus,**Sacer,**Sacro-lu**Salping**——*

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Supra-j
Syndesm

Tempor
Teres m
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Thyreoidæus
—
—
Tibialis
—
Trachel
Transv
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—
Trapez
Triang
Triceps
—

Vastus
—

Zygoma

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An

An Account of what Dr. DOUGLAS
obliges himself to perform in a
COURSE of HUMAN and
COMPARATIVE ANATOMY.

In the OSTEOLOGICAL PART:

1. **T**O discourse on the bones, cartilages,
and ligaments in general.
2. To examine the bones in particular, all of
them being so prepared as their inner substance
may be viewed as well as their outer.
3. To shew the articulations of the bones
both in a skeleton and in a fresh subject.
4. To demonstrate the Periosteum, the Me-
dulla, the entrance and exit of the blood vessels,
with all the mucilaginous glands, seated in or
near the joints.
5. To compare the bones of a Foetus with
those of an adult, and to give an account of their
accretion from conception to the birth.
6. To adjust the difference between a male
and female skeleton.
7. To shew and describe all the cartilages
and ligaments.

In

In the MYOLOGICAL PART:

1. To give the structure of a fibre, membrane and muscle in general.
2. To raise every muscle in particular; shewing its origin, progress and insertion; giving an account of its first discoverer, and to whom we are obliged for its best description.

In the ENTEROLOGICAL PART:

1. To give the division of the body, with a description of its common containing parts, as the Cuticula, Cutis, &c.
2. To shew all the Viscera contained in the cavity of the Thorax and Abdomen in Situ naturali, observing their situations and mutual connexions one with another, and from thence explaining several Phœnomena, that happen in the practice of physic and surgery.
3. To demonstrate each Viscus in particular.
4. To shew the parts subservient to generation in both sexes, in fresh bodies, and dried preparations.
5. To shew the organs of sense in fresh and dried preparations.
6. To demonstrate all the parts of a human Fœtus that differ from an adult, as the Thymus,

Glandulæ renales, (their numerous vessels being all filled with different coloured wax) the Funiculus and Vasa Umbilicalia, the Foramen Ovale, Canalis Botalli vel Ductus arteriosus, Ductus venosus, &c.

7. To examine the Placenta uterina, with the membranes that involve the Fœtus in Utero.

IN the NEUROLOGICAL PART:

1. To discourse of the nerves in general.
2. To trace all the nerves that rise from the Medulla oblongata through the holes in the Cranium to their respective terminations in the nose, eyes, ears, tongue, skin of the head, and face, neck, and parts contained in the chest and lower belly; and those that spring from the Medulla spinalis into the extremities, where they chiefly end.

IN the ADENOLOGICAL PART:

1. To explain the structure of the glands in general.
2. To demonstrate the brain and spinal marrow, with all the membranes that involve them.
3. To examine the salivary, the mammary, and all the other conglomerate glands, injecting the excretory ducts of some of them with mercury and wax.

4. To

4. To demonstrate several of the lymphatic or conglobate kind.

In the ANGEIOLOGICAL PART:

1. To discourse of the arteries, veins, and lymphatic vessels in general, demonstrating their several coats and valves.

2. To fill all the arteries with a ceraceous matter.

3. To inject the Sinus's of the Dura Mater, and fill some of the veins with a different coloured wax, and to trace the rest of them, particularly the Azygos, the ramifications of the Porta, and those that are opened in Venæsection.

N. B. THE above mentioned parts are all to be exhibited in human bodies, most of them being likewise shewn in dried preparations, and in describing them the following particulars are to be considered and explained, viz. their names in Greek, Latin and English, etymology, discoverer, number, situation, connexion, figure, substance, cavities, magnitude, membranes, or coats, vessels, colour, &c. with their most probable use. There will be added in the demonstration of the Viscera and glands, some observations from dissecting morbid bodies, how they may be preternaturally affected, with an

explication of the symptoms that proceed from thence.

In the COMPARATIVE PART of this Course:

1. To demonstrate and compare all the parts of a quadruped at the same time with those of a human body, that their different structures may be the better observed.

2. To shew the Vasa Lactea, the glands of the Mesentery, Receptaculum Chyli, Ductus Thoracicus, and its opening into the subclavian vein.

3. To demonstrate the four stomachs of some animal that chews the cud, and to give an account of the cause and use of rumination.

4. To shew the peristaltic motion of the guts, and the action of the diaphragm in a rabbit.

5. To demonstrate the Uterus of a cow, with its Cotyledones, and the liquors and membranes of the Fœtus included.

6. To raise all the muscles in a volatilis, inject its arteries, and trace its nerves, to examine the internal and external structure of its ear, to demonstrate the Membrana nictitans, and shew the contrivance that hinders the tendon of its muscle from compressing the globe of the eye while it acts, with the structure of the other parts of the eye. To examine the two stomachs,

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viz. the Ingluvies and Ventriculus, or gizzard, with the Prolobus or Vestibulum, the heart and lungs, with the perforations or openings of the last mentioned into several pellucid membranous bladders that lie between the folds of the intestines.

7. IN a cock, to demonstrate the Testes, kidneys, ureters, the two Penis's, and Cloaca.

8. IN a hen, to shew the Ovarium, with the Racemi Vitellorum, the Oviductus and Uterus.

9. To shew the circulation of the blood, and the animalcula in Semine masculino with glasses.

10. To give the anatomical description of all the parts of an oyster, skait, lobster, and whiting: the structure of the heart, and the elegant contrivance of the gills, will be demonstrated in this last named fish, with an account of the motion of the blood in those animals that have but one ventricle in their heart.

11. To exhibit the structure of that most abstruse organ of hearing in seven or eight different animals.

AFTER a faithful and compleat demonstration of the above mentioned particulars, to conclude the course, I will give a short history of the OECO-

238 The Order of dissecting the

NOMIA ANIMALIS, drawn from the structure of the parts thus described, and comprehended under the following heads, viz. Of mastication, deglutition, digestion, chylification, sanguification, the circular motion of the blood in a Foetus, and in an adult, of nutrition, secretions of all the particular humours in the body from the Massa sanguinea, of generation, respiration, muscular and progressive motion, with an account how the senses are performed, &c.

From the Blue Boar, over against the end of Fetter-lane, in Fleet-street, September 24, 1706.

The ORDER of DISSECTING the MUSCLES, from the twelfth chapter of ALBINUS's first book, De historia musculorum.

—**H**OC tamen addendum esse putamus, quod si quis omnes in uno eodemque corpore persequi velit, sic ut neque uni ulli multum detrimenti inferre necesse sit, neque corruptio corporis impediatur, ab Abdomine incipiendum,

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& Cox
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piendum, & dein eo regionum, in quibus musculi siti, & quas proximus liber definiet, ordine progrediendum, quo eas nunc recensebimus: quæ circa Funem spermaticum & Testem, media inter Thoracem Abdomenque, Lumborum & Coxarum pars prior, Pectus, Dorsum cum Lumborum posteriori parte & Cervice, Thoracis latus, Spatia intercostalia, quæ sub Pectore, Collum, Calva, circa Auriculam, Facies, Mala cum latere Calvæ, quæ sub Mala, Colli sceleti latus parsque prior, Natis, Femur, quæ circa Perinæum viri, vel Genitalis muliebris ambitus, quæ circum Anum, Scapula cum parte Humeri superiore, Humerus, Oculi Cavum, Cubitus, Manus, Crus, dorsum Pedis extremi Digitorumque Pedis, Planta & Digitorum pedis pars inferior, Auricula, Auris interna. In unaquaque autem regione ipsi musculi eo ordine quærendi, quo sitos eos esse, eodem proximo libro docebimus. Hanc potissimum, aut certe non multum ab ea diversam viam, ni quid forte intercedat, tenendam esse, usu, tractandoque cognovimus.

A LIST of the MUSCLES, according to their Situation, in the different regions of the body, from the third chapter of ALBINUS's second book.

MUSCULI in his regionibus, in Calva Epicranius.

CIRCA AURICULAM, Attollens auriculæ, Anterior ejusdem, Retrahentes tres, superior, medius, inferior.

IN FACIE, Orbiculares Palpebrarum, Corrugatores superciliorum, Compressores narium, Levatores labii superioris alarumque nasi, Levatores labii superioris, Zygomatici minores, Levatores angulorum oris, Zygomatici majores, Depressores angulorum oris, Depressores labii inferioris, Nasales labii superioris, Buccinatores, Orbicularis oris, Depressores alarum nasi, Levatores menti.

IN MALA ET LATERE CALVÆ, Masseter, Temporalis.

IN CAVO OCULI, Levator palpebræ superioris, Obliquus superior oculi, Rectus attollens oculi,

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A LIST of the MUSCLES, &c. 261

oculi, Rectus abductor oculi, Rectus adductor oculi, Rectus depressor oculi, Obliquus inferior.

IN AURICULA, Tragicus, Antitragicus, Major helcis, Minor helcis, Transversus Auriculæ.

IN AURE INTERNA, Externus mallei, Laxator tympani, Tenfor tympani, Stapedius.

IN COLLO, Latissimi colli, Sternomastoidei, Cleidomastoidei, Coracohyoidei, Sternohyoidei, Sternothyreoidei, Hyothyreoidei, Biventre maxillæ, Stylohyoidei, Stylohyoidei alteri, Styloglossi, Stylopharyngei, Mylohyoidei, Geniohyoidei, Ceratoglossi, Basio-glossi, Chondroglossi, Genioglossi, Linguales, Constrictores pharyngis inferiores, Constrictores pharyngis medii, Constrictores pharyngis superiores, Salpingopharyngei, Palatopharyngei, Constrictores isthmi faucium, Levatores palati molliis, Circumflexi palati, Azygus Uvulæ, Cricothyreoidei, Cricoarytænoidei postici, Arytænoidei obliqui, Arytænoideus transversus, Cricoarytænoidei laterales, Thyreoarytænoidei.

SUB MALA, Pterigoideus internus, Pterigoideus externus.

IN PECTORE, Pectorales, Serrati antici, Subclavii.

IN LATERE THORACIS, Serratus magnus.

IN

262 A LIST of the MUSCLES,

IN ABDOMINE, Obliqui externi abdominis, Obliqui interni abdominis, Transversi abdominis, Recti abdominis, Pyramidales.

CIRCA FUNEM SPERMATICUM AC TESTEM, Cremaster.

INTER ABDOMEN THORACEMQUE, Diaphragma.

SUB PECTORE, Triangularis sterni.

IN LUMBORUM ET COXARUM PARTE PRIORE, Psoæ parvi, Psoæ magni, Iliaci interni, Quadrati lumborum.

CIRCA PERINÆUM VIRI, Acceleratores, Erectores penis.

IN GENITALIS MULIEBRIS AMBITU, Constrictores cunni, Erectores clitoridis.

CIRCUM ANUM, Sphincter ani externus, Transversi perinæi, Transversi perinæi alteri, Levatores ani, Coccygei, Curvatores coccygis, Sphincter ani internus. In VIRO etiam Compressores prostatae.

IN DORSO CUM LUMBORUM POSTERIORE PARTE ET CERVICE, Cucullares, Latissimi dorsi, Rhomboidei majores, Rhomboidei minores, Serrati postici superiores, Serrati postici inferiores, Levatores scapularum, Splenii capitis, Splenii

Splenii
Tracheales
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Splenii colli, Biventre cervicis, Complexi, Trachelomastoidei, Transversales cervicis, Cervicales descendentes, Sacrolumbales cum Longissimis dorsi, Spinales dorsi, Semispinales dorsi, Spinales cervicis, Interspinales cervicis, Recti postici majores capitis, Recti postici minores capitis, Obliqui inferiores capitis, Obliqui superiores capitis, Multifidi spinæ, Interspinales Lumborum, Interspinales dorsi, Intertransversarii lumborum, Intertransversarii dorsi, Levatores costarum brevioris, Levatores costarum longiores.

IN SPATIIS INTERCOSTALIBUS, Intercostales externi, Intercostales interni.

IN COLLI Sceleti lateribus parteque priore, Scaleni priores, Scaleni minimi, Scaleni laterales, Scaleni medii, Scaleni postici, Recti interni majores capitis, Longi colli, Recti interni minores capitis, Recti laterales capitis, Intertransversarii colli priores, Intertransversarii colli posteriores.

IN SCAPULA ET HUMERI SUPERIORI PARTE, Deltoides, Supraspinatus, Infraspinatus, Teres minor, Teres major, Subscapularis.

IN HUMERO, Biceps brachii, Coracobrachialis, Brachialis internus, Triceps brachii.

IN

264 A LIST of the MUSCLES,

IN CUBITO, Supinator longus, Radialis externus longior, Radialis externus brevior, Extensor communis digitorum manus, Extensor proprius digiti minimi manus, Ulnaris externus, Anconeus, Supinator brevis, Abductor longus pollicis manus, Extensor minor pollicis manus, Extensor major pollicis manus, Indicator, Ulnaris internus, Palmaris longus, Radialis internus, Pronator teres, Sublimis, Profundus, Flexor longus pollicis manus, Pronator quadratus.

IN MANU, Lumbricales, Abductor brevis pollicis manus, Opponens pollicis manus, Flexor brevis pollicis manus, Adductor pollicis manus, Palmaris brevis, Abductor digiti minimi manus, Flexor parvus digiti minimi manus, Adductor metacarpi digiti minimi, Interossei manus, Abductor indicis.

IN NATE, Gluteus magnus, Gluteus medius, Gluteus minor, Piriformis, Geminorum superior, Geminorum inferior, Obturator internus, Quadratus femoris.

IN FEMORE, Biceps cruris, Semitendinosus, Semimembranosus, Tensor vaginae femoris, Rectus cruris, Sartorius, Vastus externus, Vastus internus, Cruralis, Pectineus, Adductor longus femoris, Gracilis, Adductor brevis femoris, Obturator externus, Adductor magnus femoris.

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IN F
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Flexor

according to their Situation: 265

IN CRURE, Gemellus, Plantaris, Soleus, Popliteus, Flexor longus digitorum pedis, Flexor longus pollicis pedis, Tibialis posticus, Peroneus longus, Peroneus brevis, Extensor longus digitorum pedis, Peroneus tertius, Tibialis anticus, Extensor proprius pollicis pedis.

IN PEDIS EXTREMI DIGITORUMQUE EJUS DORSO, Extensor brevis digitorum pedis.

IN PLANTA ET DIGITORUM PEDIS PARTE INFERIORE, Flexor brevis digitorum pedis, Abductor pollicis pedis, Abductor minimi pedis, Lumbricales pedis, Flexor brevis pollicis pedis, Adductor pollicis pedis, Transversus pedis, Flexor brevis minimi pedis, Interossei pedis.

F I N I S.

A a

O M I S S I O N S.

Pag. 3, after last line, N. B. *OBLIQUUS* ascendens runs in fleshy between the three last ribs, where their cartilaginous endings do not adhere to one another.

Pag. 9, line 13, Fibres.

Pag. 172, after the last line, N. B. I MEAN, some part of the tendinous fibres of the *Glutæus minimus* are spread upon the membrane that involves that part of the bone.